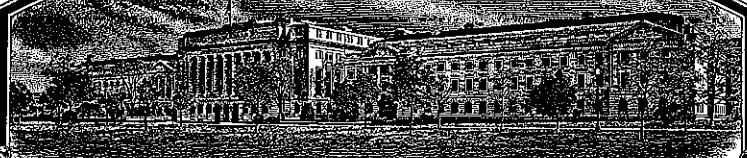


No.



# THE UNITED STATES OF AMERICA

**TO ALL TO WHOM THESE PRESENTS SHALL COME:**

**Enza Zaden Beheer B.V.**

**Whereas,** THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC DEPOSITMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR SAVING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

**LETTUCE**

**'Tassajara'**

In Testimony Whereof, I have hereunto set my hand  
and caused the seal of the Plant Variety  
Protection Office to be affixed at the City of  
Washington, D.C. this twenty-ninth day of  
November, in the year two thousand and seven.

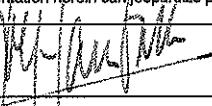
Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*D. L. Morgan*  
Secretary of

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

<p>1. NAME OF OWNER <b>ENZA ZADEN BEHEER B.V.</b></p> <p>4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) <b>POSTBUS 7, 1600 AA ENKHUIZEN HALING 1<sup>e</sup>, 1602 DB ENKHUIZEN THE NETHERLANDS</b></p> <p>7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>CORPORATION</b></p> <p>10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <b>ENZA ZADEN RESEARCH USA, INC ATTN: MEL HOLLAND P.O. BOX 866 SAN JUAN BAUTISTA, CA 95045</b></p>		<p>The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995. Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).</p> <p>2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME <b>14.0980</b></p> <p>5. TELEPHONE (Include area code) <b>011.31.228.315.844</b></p> <p>6. FAX (Include area code) <b>011.31.228.315.854</b></p> <p>8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>NOORD - HOLLAND</b></p> <p>9. DATE OF INCORPORATION <b>1938</b></p> <p>13. E-MAIL <b>mhellan2@ix.netcom.com</b></p> <p>16. FAMILY NAME (Botanical) <b>COMPOSITAE</b></p> <p>17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p> <p>18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.</p> <p>19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)  <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety  <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness  <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety  <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)  <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership  <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)  <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)</p> <p>20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)</p> <p>21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED</p> <p>22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)</p> <p>23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)</p> <p>24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)</p> <p>25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.</p>	
SIGNATURE OF OWNER 		SIGNATURE OF OWNER	
NAME (Please print or type) <b>J. Lopez-Arias</b>		NAME (Please print or type)	
CAPACITY OR TITLE <b>DIRECTOR</b>		CAPACITY OR TITLE	
DATE <b>06/16/2005</b>		DATE	

(See reverse for instructions and information collection burden statement)

## INSTRUCTIONS

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

## Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

## ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice*, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

**22. CONTINUED FROM FRONT** (Please provide a statement as to the limitation and sequence of generations that may be certified.)**23. CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

DATE OF FIRST SALE : JUNE 18, 2004

**24. CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the *Regulations and Rules of Practice*.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD). USDA is an equal opportunity provider and employer.

**Exhibit A:****Origin and Breeding History of the Variety****Lettuce: 'Tassajara'**

'Tassajara' originated from a cross made in July 1995 between the icebergs 'Jupiter' and the breeding line 3x457. Experimental 980 was the temporary designation of the variety 'Tassajara'.

'Tassajara' is a black seeded, crisphead variety that is adapted to warm season production areas in the desert Southwest. It has performed well from late spring through autumn season in the central coast valleys of California. 'Jupiter' is a large framed, dense headed Vanguard iceberg type and is corky root susceptible that is planted for early spring harvest in the central coast valleys of California and in the 'Merit' season in the desert Southwest. The objective of this cross was to develop a dense, shorter cored summer season iceberg with resistance to corky root *Sphingomonas* (formerly *Rhizomonas*) *suberifaciens* that would be adapted to wide bed production (80 inch beds with 5-6 rows/bed).

The pedigree method of plant breeding employing single plant and mass selection was used in developing the variety. Screening for corky resistance was accomplished by a combination of innoculating seedlings in trays with the bacterial suspension with soil temperatures maintained at 28C +/- 1C and field selection in commercial fields with a history of the disease. We obtained the CA1 (*Sphingomonas suberifaciens*) corky root inoculum from the Plant Pathology Department at the University of California, Davis.

**Stages of Development:**

F1- July 1995 the cross was made between 'Jupiter' and the breeding line 3x457.

Seed from this cross was sown September 5, 1995 and eight plants were transplanted for multiplication. Seed was saved from three single plant selections (GH-95-859A-C) and seed of the plants remaining was massed.

F2- Seed of the three single plant selections and the mass were sown in trays on March 13, 1996. These trays were placed on heated benches in the greenhouse. These seedlings were screened for corky root resistance (*Sphingomonas suberifaciens*). Each seedling was inoculated twice with the bacterial suspension of corky root. These seedlings were then evaluated for disease expression on April 5, 1996. Twenty four seedlings from the single plant selection GH-95-859B were tested and 16 seedlings were susceptible and 8 had no symptoms. The eight seedlings were saved as single plant selections (CRR2-96-763A-H). The seedlings were transplanted for seed multiplication in the greenhouse at the company facilities in San Juan Bautista, California.

F3- The progeny from the F2 multiplication were planted February 1997 in a commercial field in Salinas, California. The selection CRR2-96-763F exhibited better size, shape and

good field holding ability. Five single plant selections were made in this line and transplanted to the greenhouse for seed multiplication.

F4- Progeny from the F3 multiplication was sown in seedling trays on September 21, 1997 and transplanted November 26, 1997 to a breeding nursery at Griffith, New South Wales, Australia. Four single plant selections were made that had superior heading ability, with no tip burn and shorter cores on December 14, 1997. The single plant selections were de-headed for seed multiplication.

F5- Seeds of each of the four single plant selections were sown in a controlled screening at the company facilities. All four of the lines were resistant in the test. Seed from the Australian multiplication was sown in a breeding nursery at the company research facilities at San Juan Bautista, California on July 1, 1998. One line (Au-98-14B) was very uniform for maturity, shape and size. Eight single plant selections were made in this line (6-98-3473A-H) and transplanted to the greenhouse for seed increase.

F6- Seed of the selected lines were sown in a breeding nursery at San Juan Bautista on August 5, 1999. The 6-98-3473A selection had larger size and a shorter core and 6 single plant selections were made and seed was increased.

F7- The seed from the above increase was sown on July 27, 2000 in a commercial field in Chular, California that had a history of corky root (*Sphingomonas suberifaciens*). Eight plants were selected and the seed was massed from this breeding nursery to produce foundation seed.

F8- The seed from the F7 mass was sown on May 2001 at Buttonwillow, California to produce seed for trials and commercial production. The F7 mass was given the experimental designation '980'. The seed production field in Buttonwillow was rogued for type twice at maturity before the heads were removed and once after bolting commenced. A large framed, loose heading off type was found at the rate of 1/2500 plants and removed. Seed from this multiplication was trialed extensively in commercial production fields in the central coast valleys of California and Yuma, Arizona in 2002. An additional seed crop was sown October 2003 in Griffith, New South Wales, Australia to produce seed for trials and initial sales in 2004. The experimental '980' was given the name 'Tassajara' in 2004. The large, loose heading off-type was observed at the same rate above and these plants were removed.

From extensive commercial trials in California and Arizona 'Tassajara' is uniform for type and is corky root resistant. It is free of off types except for the off type mentioned above.

RAD  
9/25/2007

Variants      Variants

#### Addendum to Exhibit A: Lettuce PVP Application #200500284, 'Tassajara'

I am including the breeding history for the Lettuce Breeding Line #457:

- 1992: Breeding Line No. 457= Cross between Breeding Lines 64 X 68
- 1990: Breeding Line No. 64= Cross between Breeding Line 15 X Alpha, DMR
- Breeding Line No. 68= Cross between Breeding Line 19 X Alpha, DMR
- 1989: Breeding Line No. 15= Cross between Greenlake X Salinas
- Breeding Line No. 19= Cross between Don Juan X Pacific

Breeding Line # 457 is most similar to Ponderosa.

From extensive trials in California and Arizona 'Tassajara' is uniform and stable.

200500284

**Exhibit B:**

**Statement of Distinctness**

Lettuce: Tassajara

Tassajara is a black seeded Salinas type iceberg lettuce suitable for late spring / summer / fall plantings in the warmer regions of the West Coast.

Tassajara most closely resembles Ponderosa, however, Tassajara can be distinguished from Ponderosa and Jupiter as follows:

Tassajara and Ponderosa are both resistant to corky root while Jupiter is susceptible to corky root.

Tassajara is highly resistant to tipburn while Ponderosa and Jupiter are moderate resistant and susceptible to tipburn, respectively.

Tassajara has a smaller head size compared to Jupiter. Furthermore, the leaf type of Jupiter is more savoyed and has a darker green color compared to Tassajara.

Tassajara has a denser head and more weight compared to Ponderosa. Tassajara has a darker green color compared to Ponderosa.

The color of Tassajara is 146B on the RHS color chart versus 146C for Ponderosa and 137C for Jupiter.

**Exhibit B:****Statement of Distinctness**

Lettuce: Tassajara

'Tassajara' has a smaller frame -and head size compared to its parent 'Jupiter'.

**Addendum to Exhibit B: Lettuce PVP Application #200500284, 'Tassajara'**

'Tassajara' is resistant to corky root (*Sphingomonas (Rhizomonas) suberifaciens* – *pathotype CA I*) while 'Autumn Gold' is susceptible to corky root.

'Tassajara' is resistant to LMV (common strain) while Bronco is susceptible to LMV.

'Tassajara' is resistant to corky root (*Sphingomonas (Rhizomonas) suberifaciens* – *pathotype CA I*) while 'Enterprise' is susceptible to corky root. In addition, 'Tassajara' is adapted to the West Coast while 'Enterprise' is not adapted to the West Coast.

'Tassajara' is resistant to LMV (common strain) while 'Sharpshooter' is susceptible to LMV (ref. patent# 5,973,232).

'Tassajara' has a denser head than 'Ponderosa' meaning that, while 'Tassajara' and 'Ponderosa' are similar in head size (see head diameter and head height measurements), 'Tassajara' weighs consistently and significantly more than 'Ponderosa' which results in a denser head.

## Exhibit C - 'Tassajara'

200500284

Quantitative data - San Juan Bautista

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 1) sowing : 03/17/2005 evaluation : 06/07/2005  
 SJB2 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 2) sowing : 03/17/2005 evaluation : 06/07/2005

Head Weight (grams)				
	SJB1		SJB2	
	Tassajara	Pondorosa	Tassajara	Pondorosa
1	1500.0	1093.7	1440.7	906.4
2	984.4	1056.3	1049.5	816.4
3	1406.3	1259.3	1166.1	774.0
4	1125.0	1260.5	899.6	1000.4
5	1220.9	1016.9	1012.2	940.3
6	1070.6	1080.3	935.4	872.3
7	1531.5	912.1	1157.5	1475.6
8	1224.0	1225.9	1464.6	1204.9
9	1196.3	1030.8	1188.8	915.7
10	1247.5	920.0	1529.0	1258.1
11	1348.6	1063.8	901.0	1078.5
12	1108.2	891.7	1425.0	791.8
13	1410.8	997.6	1169.0	1086.1
14	1262.0	1028.3	1416.2	830.9
15	1306.9	1142.4	1448.6	1023.5
16	1306.1	1181.9	1309.7	810.8
17	1583.2	1166.2	1252.9	735.4
18	1650.7	1051.1	1523.6	907.2
19	1445.0	1078.5	1147.6	1043.9
20	1492.1	1092.8	1368.3	1348.9

## Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SJB1</i>			
Count	20	20	40
Sum	26420.1	21550.1	47970.2
Average	1321.005	1077.505	1199.255
Variance	32554.63208	11301.27734	36568.84049
<i>SJB2</i>			
Count	20	20	40
Sum	24805.3	19821.1	44626.4
Average	1240.265	991.055	1115.66
Variance	43430.00345	40940.44682	57028.07169
<i>Total</i>			
Count	40	40	
Sum	51225.4	41371.2	
Average	1280.635	1034.28	
Variance	38689.68079	27367.40472	

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	139762.4805	1	139762.4805	4.359867	0.04015	3.966761
Variety	1213815.72	1	1213815.72	37.86478	3.3E-08	3.966761
Rep x Var	163.0205001	1	163.0205001	0.005085	0.94334	3.966761
Error	2436300.834	76	32056.58992			
Total	3790042.055	79				

Exhibit C - "Tassajara"  
 Quantitative data - SJB

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 1)  
 SJB2 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 2)

sowing : 03/17/2005  
 sowing : 03/17/2005

evaluation : 06/07/2005  
 evaluation : 06/07/2005

Trial	No.	Spread of Frame Leaves (cm)			Head Weight (grams)			Head Diameter (cm)			Head Height (cm)			Core Diameter (mm)			Core Length (mm)		
		Tassajara	Pondoroza	Telluride	Tassajara	Pondoroza	Telluride	Tassajara	Pondoroza	Telluride	Tassajara	Pondoroza	Telluride	Tassajara	Pondoroza	Telluride	Tassajara	Pondoroza	Telluride
SJB1	1	62.4	59.8	63.7	1500.0	1093.7	1059.3	17.2	16.7	16.4	14.6	17.0	33.8	31.8	34.8	69.0	59.3	76.0	
SJB1	2	64.3	65.9	66.9	984.4	1056.3	1009.1	15.8	19.4	17.7	14.9	14.9	24.8	33.0	32.6	65.2	68.2	66.6	
SJB1	3	59.8	59.4	64.2	1406.3	1259.3	1090.1	15.4	16.6	16.1	15.2	17.2	35.1	32.8	37.3	64.9	70.9	82.2	
SJB1	4	52.9	57.8	65.7	1125.0	1260.5	840.9	16.6	16.5	15.2	16.7	15.5	16.1	29.3	36.7	30.0	66.2	60.6	68.2
SJB1	5	59.7	55.0	57.8	1220.9	1016.9	1149.2	15.9	15.8	16.6	16.4	14.1	16.7	29.0	33.8	33.0	65.0	55.0	74.2
SJB1	6	61.2	60.0	58.4	1070.6	1080.3	1197.1	15.6	17.1	15.8	15.4	15.6	17.9	29.0	33.5	34.2	62.8	68.4	78.6
SJB1	7	57.7	60.5	58.5	1531.5	912.1	1180.0	16.8	16.2	16.9	18.0	14.2	18.4	31.0	31.7	32.0	65.0	59.3	91.2
SJB1	8	61.8	60.0	63.1	1224.0	1225.9	1208.2	16.9	18.3	17.8	16.7	15.0	17.9	29.6	34.4	35.2	60.8	65.8	70.6
SJB1	9	65.0	54.5	61.9	1196.3	1030.8	1285.4	16.7	18.8	15.8	16.8	15.2	18.6	30.5	31.0	36.4	68.4	68.5	73.6
SJB1	10	68.0	51.7	65.2	1247.5	920.0	1053.7	18.1	17.9	17.5	15.9	13.9	16.9	31.1	29.0	33.9	80.0	51.5	69.2
SJB1	11	64.9	59.2	56.8	1348.6	1063.8	1280.3	16.7	17.3	17.0	17.1	15.2	16.7	31.5	37.9	37.2	62.0	63.5	73.1
SJB1	12	63.2	56.0	61.5	1108.2	891.7	1396.8	16.6	16.0	16.7	14.8	13.2	17.1	28.0	30.9	39.0	68.5	59.7	79.2
SJB1	13	65.4	58.5	60.2	1410.8	997.6	918.6	17.6	16.5	16.9	16.1	16.3	16.0	29.9	31.7	34.6	65.9	62.1	57.5
SJB1	14	62.5	55.5	57.9	1262.0	1028.3	1360.9	17.3	16.1	14.2	16.3	15.7	17.1	30.0	29.6	38.0	58.0	54.0	65.5
SJB1	15	64.7	54.8	61.3	1306.9	1142.4	918.8	16.8	18.1	17.7	17.9	15.4	15.9	27.9	31.5	36.6	72.5	67.8	58.0
SJB1	16	64.5	53.2	55.2	1306.1	1181.9	1178.3	17.9	16.5	17.0	16.7	17.0	16.9	32.3	33.5	36.2	61.4	66.9	63.0
SJB1	17	64.1	56.7	64.5	1583.2	1166.2	803.3	17.3	17.2	15.9	16.8	15.2	16.8	31.1	35.0	31.4	59.0	71.0	57.3
SJB1	18	62.0	54.2	61.4	1650.7	1051.1	1241.4	17.3	17.9	16.9	18.3	15.7	17.8	34.4	33.3	36.5	60.2	64.7	77.4
SJB1	19	60.5	54.9	60.0	1445.0	1078.5	1310.6	17.6	15.4	18.2	15.5	13.9	19.6	34.5	34.5	36.5	66.1	53.0	70.9
SJB1	20	65.7	57.2	59.6	1492.1	1092.8	1191.8	16.6	17.3	15.6	16.6	15.2	17.8	30.5	35.5	36.3	68.2	67.9	61.7
SJB2	1	61.0	64.8	63.9	1440.7	906.4	646.6	15.8	17.2	15.4	16.3	17.5	15.7	34.1	29.7	29.7	67.0	51.7	53.7
SJB2	2	62.4	59.5	60.7	1049.5	816.4	1007.8	16.5	16.8	15.0	17.5	15.6	18.0	26.3	30.6	32.0	59.5	64.4	71.3
SJB2	3	59.0	56.5	59.4	1166.1	774.0	866.6	16.6	15.9	14.8	16.3	13.7	17.2	27.6	30.8	30.6	74.8	42.2	76.8
SJB2	4	62.1	55.0	60.0	899.6	1000.4	736.8	18.4	16.3	14.6	16.4	14.2	13.9	26.0	31.0	31.1	63.2	50.6	42.0
SJB2	5	60.9	60.9	62.7	1012.2	940.3	1009.0	16.9	16.5	16.2	17.0	16.0	17.8	27.3	35.2	32.4	68.8	51.3	61.5
SJB2	6	61.0	55.8	53.0	935.4	872.3	944.8	17.0	15.4	14.3	16.2	15.7	17.3	26.5	27.7	31.9	87.0	59.8	73.5
SJB2	7	62.0	57.5	66.1	1157.5	1475.6	857.2	16.6	16.3	17.3	16.9	15.3	28.2	35.8	32.8	70.0	34.1	42.0	
SJB2	8	58.5	59.5	64.1	1464.6	1204.9	964.2	18.5	20.4	16.7	16.2	16.2	30.4	35.2	34.1	76.0	65.7	62.9	
SJB2	9	64.8	60.7	63.8	1188.8	915.7	835.1	18.7	18.0	18.1	15.7	14.5	28.5	30.0	33.7	75.5	60.5	64.9	

200500284

Exhibit C - 'Tassajara'  
Quantitative data - SJB (continue)

Trial No.	Spread of Frame Leaves (cm) Tassajara Ponderosa Telluride	Head Weight (grams)			Head Diameter (cm)			Core Diameter (mm)			Core Length (mm)		
		Tassajara	Ponderosa	Telluride	Tassajara	Ponderosa	Telluride	Tassajara	Ponderosa	Telluride	Tassajara	Ponderosa	Telluride
SJB2 10	60.8	60.8	64.3	1529.0	1258.1	1160.2	18.0	16.8	17.2	17.3	16.2	33.5	32.5
SJB2 11	56.0	64.0	62.7	901.0	1078.5	725.6	18.0	19.9	15.6	13.9	15.3	28.8	31.5
SJB2 12	60.0	51.0	63.0	1425.0	791.8	1315.0	16.3	16.0	15.8	16.1	14.0	17.5	31.6
SJB2 13	61.9	63.0	59.8	1169.0	1086.1	1152.2	16.4	17.3	18.0	15.8	14.5	16.5	32.8
SJB2 14	53.7	58.4	56.9	1416.2	830.9	1137.1	16.8	18.9	15.8	17.0	16.8	17.8	32.5
SJB2 15	62.0	56.2	63.8	1448.6	1023.5	1175.8	16.7	16.4	17.1	16.9	13.9	16.9	28.5
SJB2 16	60.2	51.1	58.5	1309.7	810.8	670.0	16.0	16.5	15.7	16.6	15.8	15.8	29.9
SJB2 17	60.5	55.4	55.9	1252.9	735.4	980.9	17.8	16.0	16.5	16.9	14.5	16.9	31.6
SJB2 18	60.1	57.3	62.8	1523.6	907.2	1107.0	18.5	18.5	16.9	18.1	15.4	16.7	32.3
SJB2 19	63.9	66.3	63.2	1147.6	1043.9	1315.7	15.7	18.6	16.0	15.5	16.0	15.9	27.9
SJB2 20	63.4	56.8	65.5	1368.3	1348.9	1048.9	17.1	17.5	17.1	17.2	16.9	16.0	29.8
Mean	61.6	57.9	61.3	1280.6	1034.3	1058.3	16.9	17.1	16.5	15.3	16.8	30.2	32.5
Variance	9.5	13.9	10.8	38689.7	27367.4	39072.0	0.7	1.2	1.5	0.9	1.0	1.2	34.4

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**Exhibit C - 'Tassalara'**

Quantitative data - Santa Maria

**200500284**

SM1 : Grower OSR, Pasquini Ranch, Guadalupe, Santa Maria, CA      sowing : 03/30/2005      evaluation : 06/10/2005  
 SM2 : Grower OSR, Ranch 15, Santa Maria, CA      sowing : 03/17/2005      evaluation : 05/31/2005

Head Weight (grams)			
SM1		SM2	
	Tassajara	Pondorosa	Tassajara
1	753.7	659.1	706.8
2	742.7	545.7	747.1
3	573.9	586.7	699.2
4	572.1	718.6	599.4
5	620.2	566.4	847.1
6	561.2	784.5	784.2
7	604.9	516.7	660.4
8	483.3	600.7	807.5
9	607.9	447.1	822.1
10	573.7	600.6	976.2
11	642.8	562.5	723.3
12	621.2	757.1	553.8
13	762.5	690.6	602.1
14	683.5	515.4	642.8
15	426.5	642.4	612.2
16	505	506.1	907.3
17	627.4	711.5	667.8
18	648.2	595.1	560.4
19	666	606	787.7
20	676.8	575.5	792.7
			538.5

## Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SM1</i>			
Count	20	20	40
Sum	12353.5	12188.3	24541.8
Average	617.675	609.415	613.545
Variance	7559.170395	7871.490816	7534.995872
<i>SM2</i>			
Count	20	20	40
Sum	14500.1	12507.1	27007.2
Average	725.005	625.355	675.18
Variance	13431.22366	11144.46787	14518.95805
<i>Total</i>			
Count	40	40	
Sum	26853.6	24695.4	
Average	671.34	617.385	
Variance	13179.86605	9329.334641	

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	75977.4645	1	75977.4645	7.59654	0.00732	3.966761
Variety	58222.8405	1	58222.8405	5.82136	0.01824	3.966761
Rep x Var	41760.6605	1	41760.6605	4.175403	0.04448	3.966761
Error	760120.702	76	10001.58818			
Total	936081.6675	79				

*Weight*

**Exhibit C - 'Tassajara'**  
**Quantitative data - SM**

SM1 : Grower OSR, Pasquini Ranch, Guadalupe, Santa Maria, CA  
 SM2 : Grower OSR, Ranch 15, Santa Maria, CA

sowing : 03/30/2005  
 sowing : 03/17/2005  
 evaluation : 06/10/2005  
 evaluation : 05/31/2005

Trial	No.	Head Weight (grams)			Head Diameter (cm)			Head Height (cm)			Core Diameter (mm)			Core Length (mm)		
		Tassajara	Pondorosa	Telluride	Tassajara	Pondorosa	Telluride	Tassajara	Pondorosa	Telluride	Tassajara	Pondorosa	Telluride	Tassajara	Pondorosa	Telluride
SM1	1	49.1	48.3	49.9	753.7	659.1	503.2	16.3	13.7	12.2	15.6	14.3	13.6	23.6	33.1	28.1
SM1	2	43.2	48.8	47.3	742.7	545.7	517.5	15.9	14.5	13.7	16.2	12.1	12.9	23.5	28.3	28.6
SM1	3	53.2	48.8	46.8	573.9	586.7	532.1	16.0	15.3	13.4	15.1	12.4	12.7	24.6	30.7	29.9
SM1	4	52.8	48.2	50.0	572.1	718.6	590.6	16.0	15.6	13.9	16.1	13.2	14.2	25.1	33.5	32.0
SM1	5	53.7	44.1	52.8	620.2	566.4	519.5	15.3	15.2	13.7	14.0	15.2	13.8	32.1	31.7	29.0
SM1	6	49.1	53.0	49.0	561.2	784.5	539.0	14.4	17.2	15.5	15.0	14.9	15.7	23.9	31.9	27.2
SM1	7	52.9	51.3	46.6	604.9	516.7	390.1	14.7	14.8	13.4	15.7	15.1	12.2	23.9	32.0	26.5
SM1	8	47.4	46.7	52.2	483.3	600.7	556.4	15.4	16.9	13.8	14.4	14.0	15.1	24.8	31.0	29.9
SM1	9	52.9	50.0	50.2	607.9	447.1	537.9	15.5	14.9	15.0	14.3	14.3	15.6	26.0	29.8	30.9
SM1	10	50.0	50.1	47.8	573.7	600.6	442.4	15.8	15.2	15.4	15.0	13.0	14.2	22.9	30.9	29.2
SM1	11	51.9	49.9	51.5	642.8	562.5	425.6	15.9	14.7	16.0	15.7	13.0	15.2	23.1	29.8	29.6
SM1	12	54.0	49.0	45.4	621.2	757.1	559.8	15.2	16.0	15.5	15.7	14.7	14.7	22.8	33.8	29.7
SM1	13	54.1	51.4	52.2	762.5	690.6	523.0	16.0	16.3	14.5	15.8	14.0	14.0	25.4	32.7	29.2
SM1	14	51.0	50.9	49.3	683.5	515.4	477.6	15.7	15.5	14.2	15.4	13.1	13.8	24.1	32.0	28.2
SM1	15	51.5	51.8	51.6	426.5	642.4	558.8	13.8	14.2	16.5	14.5	13.5	14.5	28.9	30.8	30.0
SM1	16	53.0	48.2	52.2	505.0	506.1	554.8	14.4	15.3	13.8	14.5	12.2	14.4	31.0	32.5	32.0
SM1	17	49.2	56.2	50.1	627.4	711.5	540.4	14.6	15.1	13.8	15.1	13.8	14.1	24.9	32.3	29.9
SM1	18	56.8	50.0	52.0	648.2	595.1	594.5	16.0	14.8	15.0	15.5	13.3	14.9	24.9	32.0	33.7
SM1	19	50.0	47.9	50.5	666.0	606.0	506.1	15.3	15.9	14.5	14.9	13.3	14.4	25.6	28.3	29.5
SM1	20	50.9	49.1	51.2	676.8	575.5	367.2	15.1	15.3	13.1	15.9	13.7	12.1	24.7	33.1	28.3
SM2	1	59.3	57.5	56.7	706.8	516.0	511.4	15.1	13.1	13.2	13.3	13.9	11.6	34.5	22.5	19.5
SM2	2	56.3	56.1	57.1	747.1	790.5	551.6	15.2	14.1	13.5	13.9	13.4	13.3	38.0	38.5	31.5
SM2	3	55.8	56.3	56.9	699.2	522.9	1007.0	14.1	14.9	14.2	13.7	11.4	14.3	33.5	20.0	39.5
SM2	4	49.2	52.4	59.9	599.4	874.9	736.9	12.9	15.3	14.9	12.9	13.2	13.0	19.5	39.0	33.5
SM2	5	52.1	53.8	52.3	847.1	612.8	726.9	15.6	13.9	14.4	12.9	14.2	14.1	34.5	29.5	37.5
SM2	6	60.9	55.9	57.2	784.2	628.8	805.0	15.5	14.0	14.9	14.8	12.9	14.3	36.0	22.5	38.0
SM2	7	59.3	54.8	49.2	660.4	599.5	666.8	13.4	13.4	13.9	14.1	13.9	13.4	31.5	32.5	24.5
SM2	8	60.6	56.6	59.8	807.5	535.4	996.2	13.8	15.2	15.5	13.9	11.7	14.2	39.5	36.5	40.0
SM2	9	59.1	54.1	54.3	822.1	767.1	771.9	14.7	15.1	13.6	13.2	13.1	36.5	35.5	36.0	33.5

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Exhibit C - 'Tassajara'  
Quantitative data - SM (continue)

Trial No.	Spread of Frame Leaves (cm)			Head Weight (grams)			Head Diameter (cm)			Head Height (cm)			Core Diameter (mm)			Core Length (mm)		
	Tassajara	Pondorosa	Telluride	Tassajara	Pondorosa	Telluride	Tassajara	Pondorosa	Telluride	Tassajara	Pondorosa	Telluride	Tassajara	Pondorosa	Telluride	Tassajara	Pondorosa	Telluride
SM2 10	56.4	51.4	54.5	976.2	668.1	789.2	13.8	14.5	14.1	14.1	13.9	12.8	34.5	36.5	37.0	30.0	37.0	37.0
SM2 11	57.9	52.4	55.3	723.3	561.8	802.4	13.8	15.6	14.3	13.6	10.0	12.9	31.5	19.5	34.5	11.1	36.5	36.5
SM2 12	58.3	52.6	54.8	553.8	648.2	798.8	14.2	15.1	15.0	13.4	13.7	14.7	23.5	32.5	35.5	19.8	28.5	37.5
SM2 13	57.7	54.7	49.3	602.1	704.3	758.0	14.1	14.9	12.7	13.9	13.6	13.4	30.7	39.0	34.0	27.5	36.5	31.5
SM2 14	58.7	54.6	54.3	642.8	507.4	798.1	13.9	13.6	14.2	14.1	11.9	14.6	32.1	24.5	32.5	29.5	19.5	39.5
SM2 15	54.2	55.3	55.9	612.2	726.4	642.7	14.4	13.8	15.1	13.5	13.7	13.3	32.5	30.5	33.5	32.5	31.5	32.0
SM2 16	54.9	53.9	53.9	907.3	610.1	756.2	15.9	14.9	14.1	14.4	14.3	13.7	41.5	35.0	28.5	36.5	27.5	27.3
SM2 17	47.8	57.9	55.6	667.8	576.4	409.1	15.1	13.8	11.9	12.4	12.1	12.4	27.0	29.5	24.5	20.5	22.0	29.3
SM2 18	54.3	54.6	48.9	560.4	645.6	664.5	14.2	14.2	14.2	13.7	12.0	12.3	31.5	35.0	34.5	29.5	36.5	24.5
SM2 19	59.2	51.9	51.4	787.7	472.4	626.8	13.4	14.2	13.1	13.5	10.9	12.3	31.5	24.5	30.5	25.5	21.0	25.0
SM2 20	54.4	57.8	49.5	792.7	538.5	466.3	13.7	14.1	13.3	13.3	11.9	11.7	34.5	22.5	24.2	35.5	19.5	24.1
Mean	53.8	52.2	52.1	671.3	617.4	613.1	14.9	14.9	14.2	14.4	13.2	13.7	29.0	30.6	31.1	30.5	35.5	31.2
Variance	16.8	11.4	12.7	13179.9	9329.3	23892.2	0.8	0.8	1.0	1.0	1.3	1.1	29.9	22.5	17.7	29.1	107.1	39.7

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**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

Exhibit C

**OBJECTIVE DESCRIPTION OF VARIETY  
Lettuce (*Lactuca sativa* L.)**

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME
ENZA ZADEN BEHEER B.V.	14.0980	TASSAJARA
ADDRESS (Street and No., or RD No., City, State, Zip Code, and Country)		FOR OFFICIAL USE ONLY
POSTBUS 7, 1600 AA ENKHUIZEN HALING 1 <sup>e</sup> , 1602 DB ENKHUIZEN THE NETHERLANDS		PVPO NUMBER <b>200500284</b>

Place the appropriate number that describes the varietal character in the boxes below. Place a zero in the first box (e.g.  9  9 or  0  9) when number is either 99 or less or 9 or less. Measured data should be the mean of an appropriate number (at least 20) of well space plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The Location of the Test Area is:	Color System Used:
SAN JUAN BAUTISTA, CA AND SANTA MARIA, CA	RHS 146 B

**SPECIFIC VARIETIES USED FOR COMPARISON AS CHECK VARIETIES IN THIS APPLICATION:** Use standard regional check varieties, which are adapted to your area. One of the comparison varieties must be the most similar variety used in Exhibit B.

Application Variety (a1) TASSAJARA Most Similar Variety (c1) PONDEROSA

Standard Regional Check Variety (c2) TELLURIDE

**1. PLANT TYPE:** (See List of Suggested Check Varieties on Page 8)

- |                                      |                                      |                                      |                            |
|--------------------------------------|--------------------------------------|--------------------------------------|----------------------------|
| 01 = Cutting/Leaf                    | 04 = Cos or Romaine                  | 07 = Salinas Group                   | 10 = Latin                 |
| 02 = Butterhead                      | 05 = Great Lakes Group               | 08 = Eastern (Ithaca) Group          | 11 = Other (Specify) _____ |
| 03 = Bibb                            | 06 = Vanguard Group                  | 09 = Stem                            |                            |
| (a1) <input type="text" value="07"/> | (c1) <input type="text" value="07"/> | (c2) <input type="text" value="07"/> |                            |

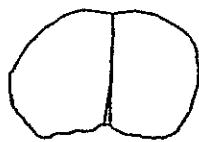
<b>2. SEED:</b>	
(a1) <input type="text" value="2"/> (c1) <input type="text" value="2"/> (c2) <input type="text" value="2"/>	COLOR 1 = White (Silver Gray) 2 = Black (Grey Brown) 3 = Brown (Amber)
(a1) <input type="text" value="2"/> (c1) <input type="text" value="2"/> (c2) <input type="text" value="2"/>	LIGHT DORMANCY 1 = Light Required 2 = Light Not Required
(a1) <input type="text" value="2"/> (c1) <input type="text" value="2"/> (c2) <input type="text" value="2"/>	(a1) <input type="text" value="2"/> (c1) <input type="text" value="2"/> (c2) <input type="text" value="2"/>
HEAT DORMANCY 1 = Susceptible 2 = Not Susceptible	

**3. COTYLEDON TO FOURTH LEAF STAGE:** NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day-old seedling grown under optimal conditions.

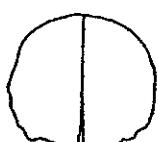
- |   |                                     |                                     |
|---|-------------------------------------|-------------------------------------|
| SHAPE OF COTYLEDONS: 1 = Broad  | 2 = Intermediate                    | 3 = Spatulate                       |
| (a1) <input type="text" value="2"/>   | (c1) <input type="text" value="2"/> | (c2) <input type="text" value="2"/> |
| SHAPE OF FOURTH LEAF: (a1) <input type="text" value="4"/> (c1) <input type="text" value="4"/> (c2) <input type="text" value="4"/> |                                     |                                     |

## 3. COTYLEDON TO FOURTH LEAF STAGE: (continued)

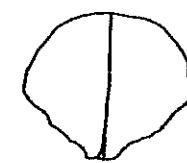
200500284



1. Transverse oval



2. Round



3. Oval



4. Elongated



5. Lanceolate



6. Pinnately lobed

## LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

(a1) (c1) (c2) 

## APICAL MARGIN:

1 = Entire  
2 = Crenate/Gnawed  
3 = Finely Dentate

4 = Moderately Dentate  
5 = Coarsely Dentate  
6 = Incised

7 = Lobed  
8 = Other (Specify) \_\_\_\_\_

(a1) (c1) (c2) 

## BASAL MARGIN: (Use the options for Apical Margin above)

(a1) (c1) (c2) 

## UNDULATION:

1 = Flat

2 = Slight

3 = Medium

4 = Marked

(a1) (c1) (c2) 

## GREEN COLOR:

1 = Yellow Green  
2 = Light Green

3 = Medium Green  
4 = Dark Green

5 = Blue Green  
6 = Silver Green

7 = Grey Green

(a1) (c1) (c2) 

## ANTHOCYANIN:

## DISTRIBUTION:

1 = Absent  
2 = Margin Only  
3 = Spotted  
4 = Throughout

5 = Other (Specify) \_\_\_\_\_

(a1) (c1) (c2) 

## CONCENTRATION:

1 = Light

2 = Moderate

3 = Intense

(a1) (c1) (c2) 

## ROLLING:

1 = Absent  
2 = Present(a1) (c1) (c2) 

## CUPPING:

1 = Uncupped  
2 = Slight  
3 = Markedly(a1) (c1) (c2) 

## REFLEXING:

1 = None  
2 = Apical Margin  
3 = Lateral Margins(a1) (c1) (c2)

**4. MATURE LEAVES (Observe Harvest-Mature Outer Leaves)**

NOTE: Provide color photo of a harvest-mature leaf which accurately shows color and margin characteristics.

**MARGIN:**

**INCISION DEPTH:**      1 = Absent/Shallow (Dark Green Boston)      2 = Moderate (Vanguard)      3 = Deep (Great Lakes 659)  
 (deepest penetration of the margin)

(a1)  (c1)  (c2) **INDENTATION: (Finest divisions of the margin)**

1 = Entire (Dark Green Boston)  
 2 = Shallowly Dentate (Great Lakes 659)  
 3 = Deeply Dentate (Great Lakes 659)  
 4 = Crenate (Vanguard)  
 5 = Other (Specify) \_\_\_\_\_

(a1)  (c1)  (c2) **UNDULATIONS OF THE APICAL MARGIN:**      1 = Absent/Slight (Dark Green Boston)      2 = Moderate (Vanguard)  
 3 = Strong (Great Lakes 659)(a1)  (c1)  (c2) 

**GREEN COLOR:**      1 = Very Light Green (Bibb)  
 2 = Light Green (Minetto)      3 = Medium Green (Great Lakes)  
 4 = Dark Green (Vanguard)      5 = Very Dark Green  
 6 = Other (Specify) \_\_\_\_\_

(a1)  (c1)  (c2) **ANTHOCYANIN:**

**DISTRIBUTION:**      1 = Absent  
 2 = Margin Only (Big Boston)      3 = Spotted (California Cream Butter)  
 4 = Throughout (Prize Head)      5 = Other (Specify) \_\_\_\_\_

(a1)  (c1)  (c2) 

**CONCENTRATION:**      1 = Light (Iceberg)  
 2 = Moderate (Prize Head)      3 = Intense (Ruby)

(a1)  (c1)  (c2) 

**SIZE:**      1 = Small      2 = Medium      3 = Large

(a1)  (c1)  (c2) 

**GLOSSINESS:**      1 = Dull (Vanguard)  
 2 = Moderate (Salinas)      3 = Glossy (Great Lakes)

(a1)  (c1)  (c2) 

**BLISTERING:**      1 = Absent/Slight (Salinas)  
 2 = Moderate (Vanguard)      3 = Strong (Prize Head)

(a1)  (c1)  (c2) 

**LEAF THICKNESS:**      1 = Thin  
 2 = Intermediate      3 = Thick

(a1)  (c1)  (c2) 

**TRICHOMES:**      1 = Absent (Smooth)  
 2 = Present (Spiny)

(a1)  (c1)  (c2) **5. PLANT:**

**SPREAD OF FRAME LEAVES:**      (a1)   cm      (c1)   cm      (c2)   cm

**5. PLANT:** (continued)**HEAD DIAMETER:** (Market Trimmed with Single Cap Leaf)(a1)   cm(c1)   cm(c2)   cm**HEAD SHAPE:**

1 = Flattened

3 = Spherical

5 = Non-Heading

2 = Slightly Flattened

4 = Elongate

6 = Other (Specify)

(a1)  (c1)  (c2)  **HEAD SIZE CLASS:**

1 = Small

2 = Medium

3 = Large

(a1)  (c1)  (c2)  **HEAD PER CARTON:**(a1)  (c1)  (c2)  **HEAD WEIGHT:**(a1)    0 g.(c1)    4 g.(c2)    8 g.**HEAD FIRMNESS:**

1 = Loose

2 = Moderate

3 = Firm

4 = Very Firm

(a1) (c1) (c2) **6. BUTT:****SHAPE:**

1 = Slightly Concave

2 = Flat

3 = Rounded

(a1) (c1) (c2) **MIDRIB:**

1 = Flattened (Salinas)

2 = Moderately Raised

3 = Prominently Raised (Great Lakes 659)

(a1) (c1) (c2) **7. CORE:****DIAMETER AT BASE OF HEAD:**(a1)   mm(c1)   mm(c2)   mm**RATIO OF HEAD DIAMETER/CORE DIAMETER:**(a1)  .(c1)  .(c2)  .**CORE HEIGHT FROM BASE OF HEAD TO APEX:**(a1)   mm(c1)   mm(c2)   mm**8. BOLTING:** (Give First Water Date: 3/17/2005) NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.**NUMBER OF DAYS FROM FIRST WATER DATE TO SEED STALK EMERGENCE:** (summer conditions)(a1)   (c1)   (c2)   **BOLTING CLASS:**

1 = Very Slow

3 = Medium

5 = Very Rapid

2 = Slow

4 = Rapid

(a1) (c1) (c2) **HEIGHT OF MATURE SEED STALK:**

(a1) cm (c1) cm (c2) cm

**8. BOLTING:** (continued)**SPREAD OF BOLTER PLANT:** (At widest point)(a1) 37 cm (c1) 37 cm (c2) 36 cm**BOLTER LEAVES:** 1 = Straight 2 = Curved(a1)  (c1)  (c2) **MARGIN:** 1 = Entire 2 = Dentate(a1)  (c1)  (c2) **COLOR:** 1 = Light Green 2 = Medium Green 3 = Dark Green(a1)  (c1)  (c2) **BOLTER HABIT:****TERMINAL INFLORESCENCE:** 1 = Absent 2 = Present(a1)  (c1)  (c2) **LATERAL SHOOTS:** 1 = Absent 2 = Present(a1)  (c1)  (c2) **BASAL SIDE SHOOTS:** 1 = Absent 2 = Present(a1)  (c1)  (c2) **9. MATURITY:** (earliness of harvest-mature head formation)

NOTE: Complete this section for at least one season.

SEASON	APPLICATION VARIETY			MOST SIMILAR VARIETY			STANDARD REGIONAL CHECK VARIETY		
	No. of Days <sup>1</sup>			No. of Days <sup>1</sup>			No. of Days <sup>1</sup>		
Spring	71	74	77	72	74	78	74	76	80
Summer									
Fall	87			89			92		
Winter									

First Water Date to Harvest

Give Planting Date(s) and Location(s):

Spring: 03/30/2005 (SANTA MARIA, CA), 03/17/2005 (SANTA MARIA, CA), 03/17/2005 (SAN JUAN BAUTISTA, CA)

Summer:

08/07/2004 (SAN JUAN BAUTISTA, CA)

Fall:

08/07/2004 (SAN JUAN BAUTISTA, CA)

Winter:

**10. ADAPTATION:****PRIMARY REGIONS OF ADAPTATION** (tested and proven adapted):

0 = Not Tested 1 = Not Adapted 2 = Adapted

 Southwest (CA and/or AZ desert)  
 North Central West Coast  
 Southeast Northeast  
 Other (Specify) \_\_\_\_\_

## 10. ADAPTATION: (Continued)

## SEASON:

Spring (Area SALINAS & SANTA MARIA)  
 Summer (Area SALINAS & SANTA MARIA)

Fall (Area SALINAS & SANTA MARIA)  
 Winter (Area \_\_\_\_\_)

GREENHOUSE: 0 = Not Tested      1 = Not Adapted      2 = Adapted  
 SOIL TYPE: 1 = Mineral      2 = Organic      3 = Both

## 11. VIRAL DISEASES:

1 = Immune	3 = Resistant	5 = Moderately Resistant/Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible
Big Vein		(a1) <input checked="" type="checkbox"/> 5	(c1) <input checked="" type="checkbox"/> 5	(c2) <input checked="" type="checkbox"/> 7
Lettuce Mosaic		(a1) <input checked="" type="checkbox"/> 1	(c1) <input checked="" type="checkbox"/> 3	(c2) <input checked="" type="checkbox"/> 7
Cucumber Mosaic		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>
Tomato Bushy Stunt, cause of dieback		(a1) <input checked="" type="checkbox"/> 3	(c1) <input checked="" type="checkbox"/> 3	(c2) <input checked="" type="checkbox"/> 3
Turnip Mosaic		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>
Beet Western Yellows		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>
Lettuce Infectious Yellows		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>
Other (Specify) _____	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	

RAD  
9/18/07

## 12. FUNGAL/BACTERIAL DISEASES:

1 = Immune	3 = Resistant	5 = Moderately Resistant/Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible
Corky Root Rot (Races: <u>CA I</u> )	(a1) <input checked="" type="checkbox"/> 3	(c1) <input checked="" type="checkbox"/> 3	(c2) <input checked="" type="checkbox"/> 3	
Downy Mildew (Races: <u>CA I, II A, III, IV</u> )	(a1) <input checked="" type="checkbox"/> 7	(c1) <input checked="" type="checkbox"/> 7	(c2) <input checked="" type="checkbox"/> 3	
Powdery Mildew	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Sclerotinia Drop	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Bacterial Soft Rot ( <i>Pseudomonas</i> spp. and others)	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Botrytis (Grey Mold)	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Verticillium Wilt	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Bacterial Leaf Spot	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Anthracnose	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Other (Specify) _____	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	

## 13. INSECTS:

1 = Immune	3 = Resistant	5 = Moderately Resistant/Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible
Cabbage Loopers		(a1) <input checked="" type="checkbox"/> 7	(c1) <input checked="" type="checkbox"/> 7	(c2) <input checked="" type="checkbox"/> 7
Root Aphids		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>
Green Peach Aphid		(a1) <input checked="" type="checkbox"/> 7	(c1) <input checked="" type="checkbox"/> 7	(c2) <input checked="" type="checkbox"/> 7
Lettuce Aphid		(a1) <input checked="" type="checkbox"/> 7	(c1) <input checked="" type="checkbox"/> 7	(c2) <input checked="" type="checkbox"/> 7

Pea Leafminer	(a1) <input checked="" type="checkbox"/> 7	(c1) <input checked="" type="checkbox"/> 7	(c2) <input checked="" type="checkbox"/> 7
Other (Specify) _____	(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>

**14. PHYSIOLOGICAL STRESSES:**

	1 = Immune	3 = Resistant	5 = Moderately Resistant/Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible
Tipburn		(a1) <input checked="" type="checkbox"/> 3	(c1) <input checked="" type="checkbox"/> 5	(c2) <input checked="" type="checkbox"/> 5	
Heat		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Drought		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Cold		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Salt		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	
Brown Rib (Rib Discoloration, Rib Blight)		(a1) <input checked="" type="checkbox"/> 3	(c1) <input checked="" type="checkbox"/> 3	(c2) <input checked="" type="checkbox"/> 5	
Other (Specify) _____		(a1) <input type="checkbox"/>	(c1) <input type="checkbox"/>	(c2) <input type="checkbox"/>	

**15. POST HARVEST STRESS:**

	1 = Immune	3 = Resistant	5 = Moderately Resistant/Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible
Pink Rib		(a1) <input checked="" type="checkbox"/> 5	(c1) <input checked="" type="checkbox"/> 5	(c2) <input checked="" type="checkbox"/> 5	
Russet Spotting		(a1) <input checked="" type="checkbox"/> 5	(c1) <input checked="" type="checkbox"/> 5	(c2) <input checked="" type="checkbox"/> 5	
Rusty Brown Discoloration		(a1) <input checked="" type="checkbox"/> 5	(c1) <input checked="" type="checkbox"/> 5	(c2) <input checked="" type="checkbox"/> 5	
Internal Rib Necrosis (Blackheart, Grey Rib, Grey Streak)		(a1) <input checked="" type="checkbox"/> 5	(c1) <input checked="" type="checkbox"/> 5	(c2) <input checked="" type="checkbox"/> 5	
Brown Stain		(a1) <input checked="" type="checkbox"/> 5	(c1) <input checked="" type="checkbox"/> 5	(c2) <input checked="" type="checkbox"/> 5	

**16. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:**

TASSAJARA IS HOMOZYGOUS FOR COR GENE FOR CORKY ROOT RESISTANCE

## 17. COMMENTS:

- QUANTITATIVE DATA BASED ON SAN JUAN BAUTISTA TRIALS
- BOLTING DATA WILL BE COLLECTED AND SUBMITTED FROM SUMMER TRIALS 2005
- LMV SCORING DATA WILL BE COLLECTED AND SUBMITTED IN FALL 2005

## SUGGESTED CHECK VARIETIES

	<u>TYPE</u>	<u>CHECK VARIETY</u>
1	Cutting/Leaf	Waldmann's Green
2	Butterhead	Dark Green Boston
3	Bibb	Bibb
4	Cos or Romain	Parris Island
5	Great Lakes Group	Great Lakes 659-700
6	Vanguard Group	Vanguard
7	Salinas Group	Salinas
8	Eastern Group	Ithaca
9	Stem	Celtuce
10	Latin	Little Gem

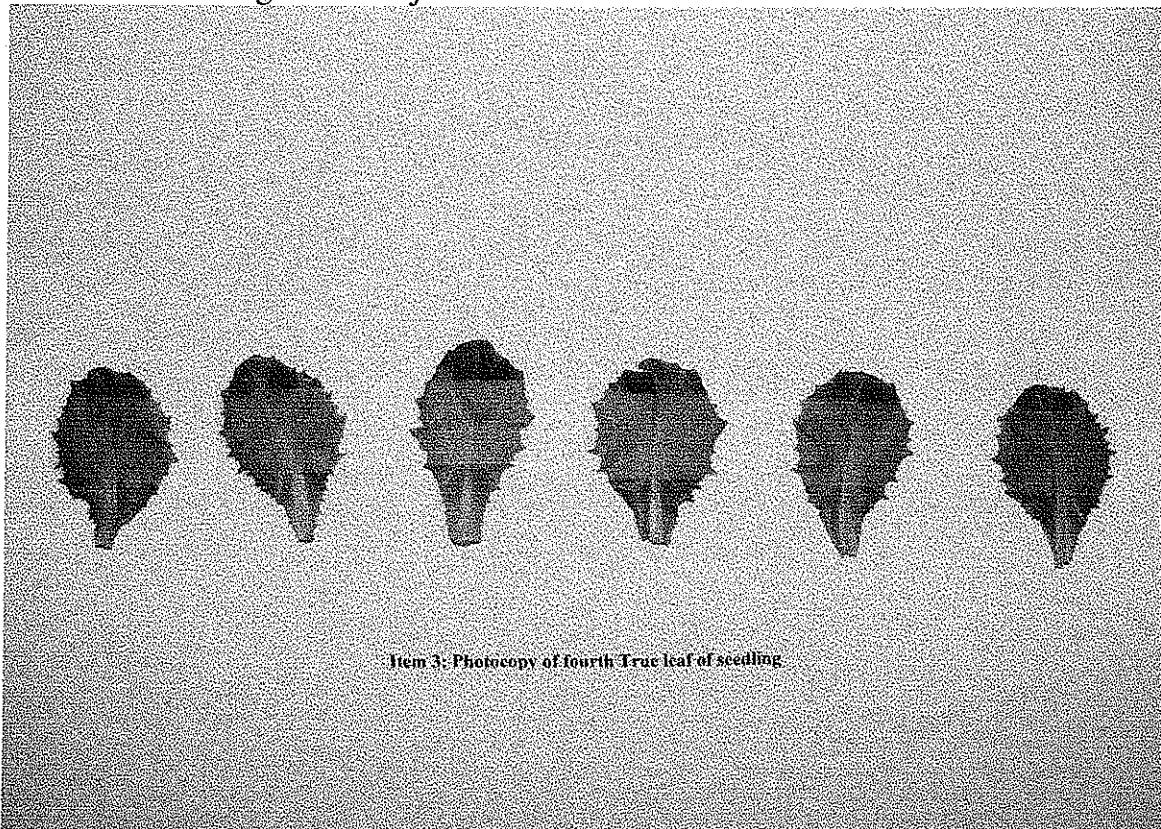
## REFERENCES

- Bowing, J.D.C., 1969. "The Identification of Varieties of Lettuce (*Lactuca Sativa L.*)". Journal of the National Institute of Agricultural Botany 11:499-520. National Institute of Agricultural Botany, Cambridge, UK.
- Davis, R.M., K.V. Subbarao, R.N. Raid, and E.A. Kurtz, 1997. "Compendium of Lettuce Diseases". APS Press, St. Paul, MN.
- Michelmore, R.W., J. M. Norwood, D.S. Ingram, I.R. Crute and P. Nicholson. 1984. "The inheritance of virulence in *Bremia lactucae* to match resistance factors 3, 4, 5, 6, 8, 9, 10, and 11 in lettuce (*Lactuca sativa*)", Plant Pathology 32:176-177.
- Norwood, J.M., R.W. Michelmore, I.R. Crute and D.S. Ingram. 1983. "The inheritance of specific virulence of *Bremia lactucae* (Downy Mildew) to match R-factors 1, 2, 4, 6, and 11 in lettuce (*Lactuca sativa*)". Plant Pathology 32:176-177.
- Rodenburg, C.M., et al., 1960. "Varieties of Lettuce. An International Monograph", Instituut voor de Verdeling van Tuinbougewassen (IVT), Wageningen, NL.
- Ryder, E.J., 1999. *Lettuce, Endive, and Chicory*, CABI Publications, Wallingford, UK.

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Exhibit C – ‘Tassajara’

Fourth true leaf stage of ‘Tassajara’

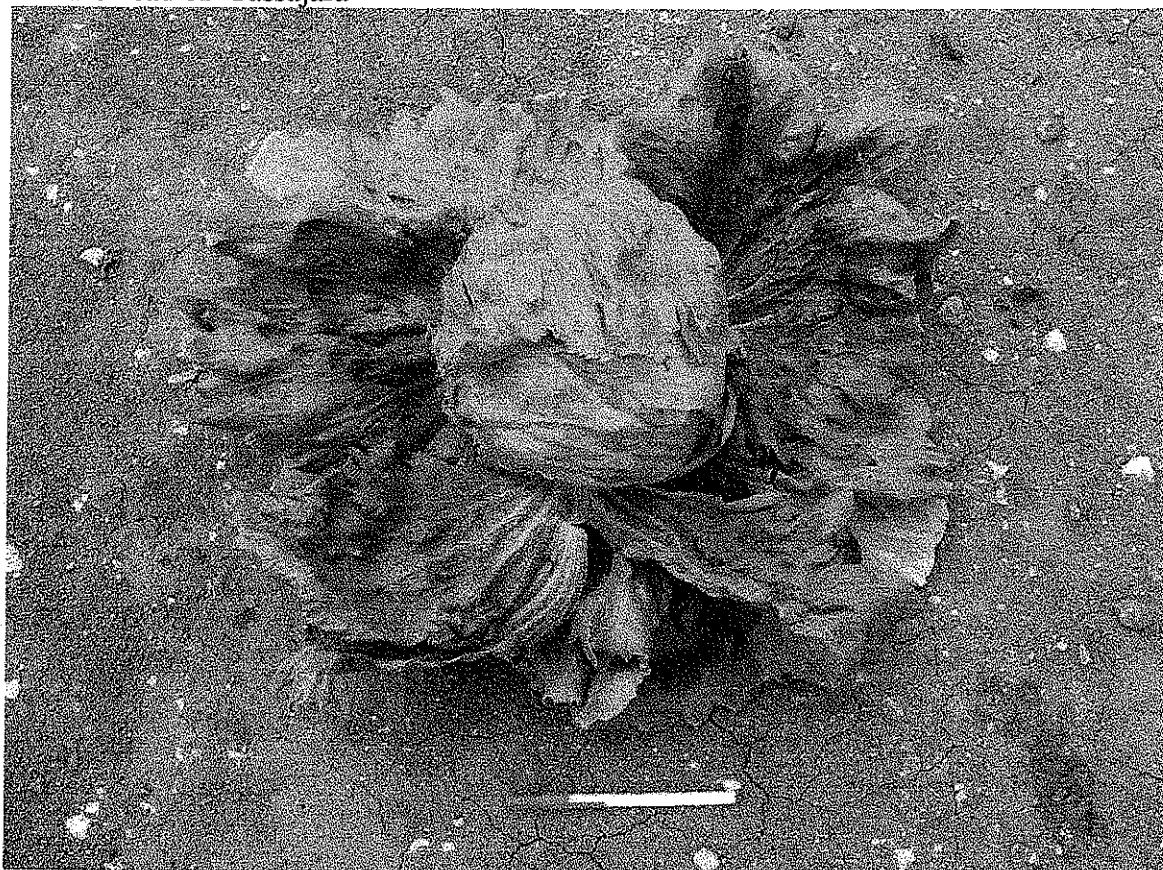


Item 3: Photocopy of fourth True leaf of seedling.

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Exhibit C – ‘Tassajara’

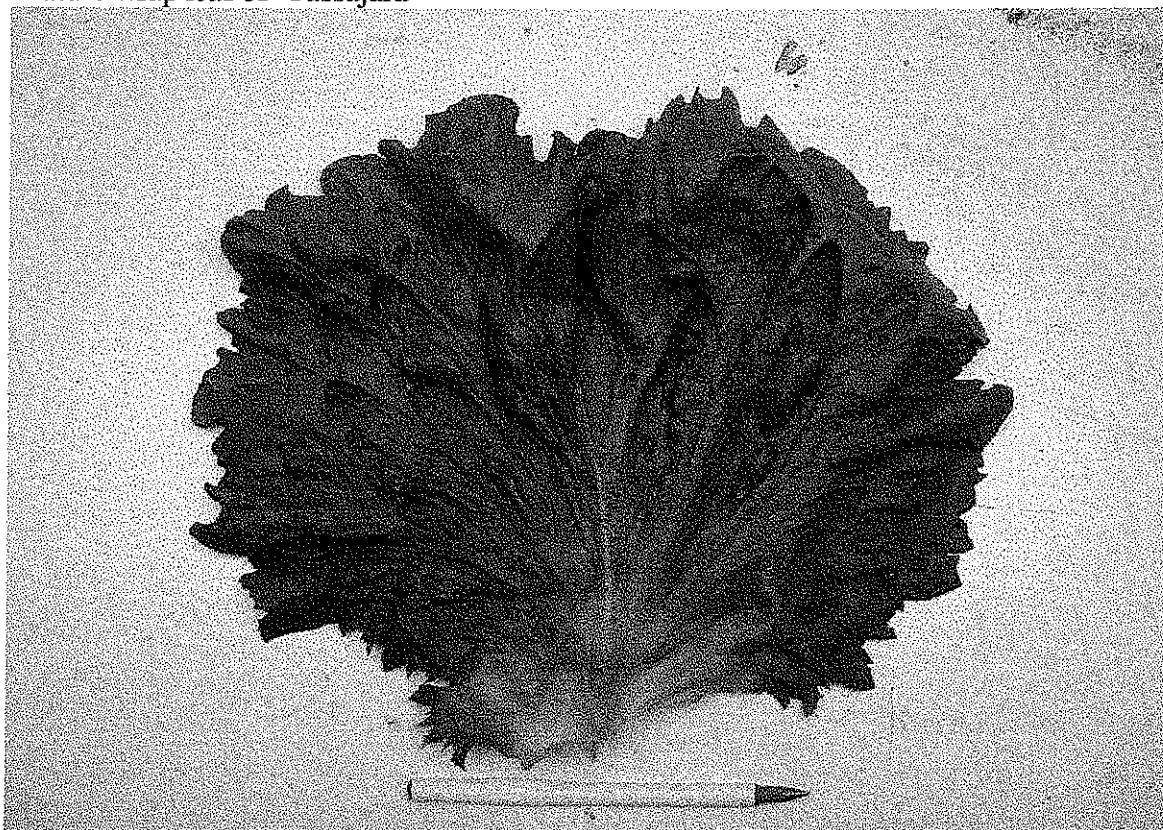
Mature head of ‘Tassajara’



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Exhibit C – ‘Tassajara’

Mature wrap leaf of ‘Tassajara’



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Exhibit D - 'Tassajara'

Results of Corky Root Tests

Corky Root Tests with (CA1) Sphingomonas suberifaciens

**Corky Root Test No.2 1996**

<u>Variety</u>	<u># Resistant</u>	<u># Susceptible</u>	<u>No. Plants</u>
Jupiter	0	24	24
Tassajara - F2	8	16	24
Bronco	24	0	24
Diamond	0	24	24
Cowboy	24	0	24

**Corky Root Test No. 3 1998**

<u>Variety</u>	<u># Resistant</u>	<u># Susceptible</u>	<u>No. Plants</u>
Jupiter - Rep 1	0	17	17
Jupiter - Rep 2	0	15	15
Tassajara - F5	16	0	16
Bronco - Rep 1	16	0	16
Bronco - Rep 2	16	0	16
Diamond - Rep 1	0	16	16
Diamond - Rep 2	0	16	16

**Corky Root Test No. 2 2005**

<u>Variety</u>	<u># Resistant</u>	<u># Susceptible</u>	<u>No. Plants</u>
Jupiter - Rep 1	0	14	14
Jupiter - Rep 2	0	20	20
Jupiter - Rep 3	0	22	22
Tassajara - Rep 1	22	0	22
Tassajara - Rep 2	22	0	22
Tassajara - Rep 3	24	0	24
Telluride - Rep 1	22	0	22
Telluride - Rep 2	15	0	15
Telluride - Rep 3	23	0	23
Diamond - Rep 1	0	22	22
Diamond - Rep 2	0	20	20
Diamond - Rep 3	0	24	24
457 - Rep 1	15	0	15
457 - Rep 2	8	0	8
457 - Rep 3	8	0	8

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**ADDENDUM TO EXHIBIT D - TASSAJARA**

**Exhibit D - 'Tassajara'**  
Quantitative data

: 525 Lucy Brown Lane, San Juan Bautista, California (rep 1)

sowing : 03/17/2005

evaluation : 06/07/2005

Trial#	Pit#	Spread of Frame Leaves (cm)		Head Weight (grams)		Head Diameter (cm)		Head Height (cm)		Core Diameter (mm)		Core Length (mm)	
		Tassajara	Jupiter	Tassajara	Jupiter	Tassajara	Jupiter	Tassajara	Jupiter	Tassajara	Jupiter	Tassajara	Jupiter
SJB1	1	62.4	60.5	1500.0	1657.4	17.2	16.5	16.4	19.8	33.8	36.5	69.0	51.5
SJB1	2	64.3	64.1	984.4	1607.9	15.8	21.7	14.9	18.8	24.8	37.4	65.2	73.0
SJB1	3	59.8	67.5	1406.3	1172.5	15.4	18.9	16.1	19.0	35.1	32.9	64.9	60.8
SJB1	4	52.9	67.0	1125.0	1499.6	16.6	15.7	16.7	20.1	29.3	35.7	66.2	60.5
SJB1	5	59.7	62.5	1220.9	1408.6	15.9	17.2	16.4	18.0	29.0	34.0	65.0	69.3
SJB1	6	61.2	70.8	1070.6	942.7	15.6	17.9	15.4	17.8	29.0	27.6	62.8	52.0
SJB1	7	57.7	68.6	1531.5	1264.9	16.8	17.7	18.0	16.9	31.0	33.4	65.0	85.8
SJB1	8	61.8	64.0	1224.0	1220.8	16.9	18.1	16.7	17.1	29.6	31.6	60.8	71.0
SJB1	9	65.0	69.8	1196.3	1645.6	16.7	19.9	16.8	19.7	30.5	38.8	68.4	68.2
SJB1	10	68.0	62.5	1247.5	1100.1	18.1	17.7	15.9	16.1	31.1	34.4	80.0	62.6
SJB1	11	64.9	63.9	1348.6	1448.2	16.7	17.0	17.1	19.4	31.5	33.2	62.0	63.0
SJB1	12	63.2	69.0	1108.2	1577.5	16.6	17.4	14.8	18.4	28.0	34.7	68.5	56.9
SJB1	13	65.4	65.1	1410.8	1443.3	17.6	21.0	16.1	17.5	29.9	33.5	65.9	70.2
SJB1	14	62.5	71.0	1262.0	1621.5	17.3	18.9	16.3	19.7	30.0	35.9	58.0	67.7
SJB1	15	64.7	63.2	1306.9	1322.4	16.8	18.9	17.9	16.5	27.9	32.3	72.5	53.2
SJB1	16	64.5	67.4	1306.1	1396.6	17.9	17.3	16.7	20.0	32.3	32.2	61.4	70.7
SJB1	17	64.1	58.2	1583.2	973.1	17.3	16.9	16.8	17.1	31.1	28.3	59.0	70.9
SJB1	18	62.0	68.8	1650.7	1598.2	17.3	17.6	18.3	19.3	34.4	36.0	60.2	70.0
SJB1	19	60.5	68.9	1445.0	914.6	17.6	14.0	15.5	16.3	34.5	32.9	66.1	48.7
SJB1	20	65.7	66.2	1492.1	1137.5	16.6	16.3	16.6	17.6	30.5	32.8	68.2	63.9
Mean		62.5	66.0	1321.0	1347.7	16.8	17.8	16.5	18.3	30.7	33.7	65.5	64.5
Var		11.2	12.4	32554.6	60158.5	0.5	3.1	0.9	1.8	6.4	7.4	25.4	81.8

Note : quantitative data SJB1 (Tassajara, Jupiter) on 'head diameter' and 'head height' already submitted in Exhibit D

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ADDENDUM TO EXHIBIT D - TASSAJARA

Exhibit D - Tassajara  
Quantitative Data

SJB3 : 525 Lucy Brown Lane, San Juan Bautista, California

sowing : 06/18/2005

evaluation : 08/23/2005

Trial#	Pit#	Spread of frame leaves (cm)		Head Weight (gram)		Head Diam (cm)		Head Height (cm)		Core Diam (mm)		Core Length (mm)	
		Tassajara	Jupiter	Tassajara	Jupiter	Tassajara	Jupiter	Tassajara	Jupiter	Tassajara	Jupiter	Tassajara	Jupiter
SJB3	1	60.3	54.9	1154.2	1191	14.6	15.6	18.1	17.5	41.2	35.4	79.3	73.1
SJB3	2	52.2	56.8	1352.1	1401.5	15.5	17.2	16.4	16.6	35.2	36.5	43.2	74.4
SJB3	3	60.5	61.5	1248	1228.7	15.1	15.6	16.7	17.7	31.8	36.5	54.9	77.2
SJB3	4	55.8	57.7	1108.1	1168.5	13.2	17.4	15.1	16.3	37.1	34.9	40.5	74.8
SJB3	5	52.5	56.3	1150	973.8	14.8	14.8	16.3	15.4	37.2	34.3	44.5	65.5
SJB3	6	55.1	56.9	1328.4	1160	15.2	16.9	16.3	16.7	36.2	37.1	54.1	65.8
SJB3	7	53.2	61.2	1202.5	936.2	16.1	14.9	17.1	16.3	35	34.8	28.4	63.3
SJB3	8	58.6	60.8	1060.5	1332.5	13.3	15.9	16.1	16.2	34.8	38.1	54.7	66.8
SJB3	9	53.3	62.7	1184.1	904.9	15.6	15.4	15.9	16.5	37.1	35.4	35.3	64.8
SJB3	10	55.8	58.5	1285	991.2	15.1	14.7	16.6	16.7	39.8	34.8	61.5	69.2
SJB3	11	59.4	59.2	1520.5	1232.2	16.5	15.4	17.9	14.8	38.3	33.6	67.1	60.8
SJB3	12	55.5	61.8	1358.1	1341.1	15.2	15.6	16.4	17.1	39.5	40	98.2	68.2
SJB3	13	52.5	63.2	1236.3	901	15.7	16.2	15.9	15.7	37.2	31.8	92.5	55.1
SJB3	14	51.5	59.9	1098.4	852.5	14.3	13.5	16.2	18.1	29.9	31.6	40	55.4
SJB3	15	51.4	58.4	1386.4	934	15.9	14.2	18.1	16.4	38.7	32.4	79.8	59.8
SJB3	16	55.5	61.2	1292.1	1136.8	15.7	14.4	15.9	16.5	36.4	34.9	47.2	52.6
SJB3	17	55.8	60	1357.7	973.9	14.9	15.5	16.2	15.7	35.5	35.4	88.5	41.5
SJB3	18	52.4	61.8	1283.9	1276.1	15.5	15.3	14.2	16.2	34.1	39	77.6	54.6
SJB3	19	53.2	58.2	1189.5	1188.7	13.3	15	15.4	17	36.1	37.2	64.9	64.5
SJB3	20	49.2	61.5	729.2	1202.7	15.3	15.2	14	16.8	30.6	35.3	52.8	66.8
Mean		54.7	59.6	1226.3	1116.4	15.0	15.4	16.2	16.5	36.1	35.5	60.3	63.7
Variance		9.8	5.4	26546.6	28215.7	0.8	0.9	1.2	0.6	8.6	4.8	404.9	76.5

200500204

## Exhibit C - Tassajara

## Quantitative Data - Bolting

Location: 525 Lucy Brown Lane, San Juan Bautista, California      Summer      Plant date: 03/17/2005

Plt #	# days to seed stalk emergence				height of mature seed stalk (cm)				spread of bolter plant (cm)			
	Tassajara	Ponderosa	Telluride	Jupiter	Tassajara	Ponderosa	Telluride	Jupiter	Tassajara	Ponderosa	Telluride	Jupiter
1	120	116	113	127	141.4	139.7	143.2	-	31.5	36.4	38.4	-
2	107	110	113	120	61.2	127.1	129.8	-	18.5	31.3	33.5	-
3	123	111	110	116	107.1	125.5	153.1	130.9	44.8	40.2	37.6	35.2
4	124	113	116	116	98.2	138.2	140.8	128.4	28.4	36.1	33.7	30.6
5	120	107	113	118	139.6	128.2	151.5	131.8	31.5	36.7	37.8	31.7
6	112	116	110	118	124.1	127.9	125.1	131.4	38.3	26.8	40.2	28.6
7	120	113	120	120	139.7	143.4	115.4	149.8	42.1	39.8	42.8	40.3
8	119	110	110	120	129.1	127.3	120.6	142.2	35.2	33.4	35.7	32.4
9	120	113	126	123	146.1	142.5	150.4	150.6	41.7	39.3	33.3	35.8
10	110	113	112	116	116.8	137.2	128.2	136.2	29.6	37.6	39.6	36.7
11	113	120	112	120	143.8	147.2	146.9	139.5	42.9	37.9	36.2	25.4
12	116	113	115	123	129.7	131.5	147.9	139.2	39.4	43.2	36.4	34.6
13	120	121	108	120	160.8	145.9	109.6	140.6	41.9	39.8	28.5	34.4
14	132	112	113	120	-	131.8	158.3	143.9	-	40.3	39.6	33.5
15	116	112	123	111	154.8	120.4	151.6	125.2	39.8	40.3	30.5	33.3
16	123	115	111	115	-	120.8	122.1	126.4	-	38.5	32.4	33.9
17	119	109	120	113	140.1	128.2	150.4	103.6	33.6	39.6	37.2	35.4
18	120	107	116	107	146.2	109.4	140.1	117.2	46.3	27.3	36.8	31.1
19	120	110	123	114	148.4	144.7	179.4	146.3	39.7	33.6	44.4	38.5
20	106	110	113	120	133.8	139.5	162.0	137.2	45.7	42.9	35.3	34.9
21	-	105	121	121	-	131.4	160.9	146.5	-	39.6	35.2	46.6
22	-	110	136	113	-	139.7	124.2	144.9	-	37.4	27.3	29.8
23	-	111	111	-	-	134.6	122.8	-	-	34.8	36.6	-
Mean	118.0	112.0	115.9	117.8	131.2	133.1	140.6	135.6	37.3	37.1	36.0	34.1
Var	37.4	14.6	43.4	20.2	558.9	88.6	309.6	135.6	52.8	18.4	16.8	20.2

**Exhibit C - 'Tassajara'**

Quantitative data - Santa Maria

200500284

SM1 : Grower OSR, Pasquini Ranch, Guadalupe, Santa Maria, CA      sowing : 03/30/2005      evaluation : 06/10/2005  
 SM2 : Grower OSR, Ranch 15, Santa Maria, CA      sowing : 03/17/2005      evaluation : 05/31/2005

Spread of Frame Leaves			
	SM1	SM2	
	Tassajara	Pondorosa	Tassajara
1	49.1	48.3	59.3
2	43.2	48.8	56.3
3	53.2	48.8	55.8
4	52.8	48.2	49.2
5	53.7	44.1	52.1
6	49.1	53.0	60.9
7	52.9	51.3	59.3
8	47.4	46.7	60.6
9	52.9	50.0	59.1
10	50.0	50.1	56.4
11	51.9	49.9	57.9
12	54.0	49.0	58.3
13	54.1	51.4	57.7
14	51.0	50.9	58.7
15	51.5	51.8	54.2
16	53.0	48.2	54.9
17	49.2	56.2	47.8
18	56.8	50.0	54.3
19	50.0	47.9	59.2
20	50.9	49.1	54.4

Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SM1</i>			
Count	20	20	40
Sum	1026.7	993.7	2020.4
Average	51.335	49.685	50.51
Variance	8.627657895	6.176078947	7.910153846
<i>SM2</i>			
Count	20	20	40
Sum	1126.4	1094.6	2221
Average	56.32	54.73	55.525
Variance	12.77431579	3.850631579	8.747564103
<i>Total</i>			
Count	40	40	
Sum	2153.1	2088.3	
Average	53.8275	52.2075	
Variance	16.79845513	11.41096795	

**ANOVA**

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	503.0045	1	503.0045	64.01852	1.1E-11	3.966761
Variety	52.488	1	52.488	6.680267	0.01166	3.966761
Rep x Var	0.018	1	0.018	0.002291	0.96195	3.966761
Error	597.145	76	7.857171053			
Total	1152.6555	79				

## Exhibit C - 'Tassajara'

200500284

Quantitative data - Santa Maria

SM1 : Grower OSR, Pasquini Ranch, Guadalupe, Santa Maria, CA      sowing : 03/30/2005      evaluation : 06/10/2005  
 SM2 : Grower OSR, Ranch 15, Santa Maria, CA      sowing : 03/17/2005      evaluation : 05/31/2005

Head Diameter (cm)				
	SM1		SM2	
	Tassajara	Pondorosa	Tassajara	Pondorosa
1	16.3	13.7	15.1	13.1
2	15.9	14.5	15.2	14.1
3	16	15.3	14.1	14.9
4	16	15.6	12.9	15.3
5	15.3	15.2	15.6	13.9
6	14.4	17.2	15.5	14
7	14.7	14.8	13.4	13.4
8	15.4	16.9	13.8	15.2
9	15.5	14.9	14.7	15.1
10	15.8	15.2	13.8	14.5
11	15.9	14.7	13.8	15.6
12	15.2	16	14.2	15.1
13	16	16.3	14.1	14.9
14	15.7	15.5	13.9	13.6
15	13.8	14.2	14.4	13.8
16	14.4	15.3	15.9	14.9
17	14.6	15.1	15.1	13.8
18	16	14.8	14.2	14.2
19	15.3	15.9	13.4	14.2
20	15.1	15.3	13.7	14.1

## Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SM1</i>			
Count	20	20	40
Sum	307.3	306.4	613.7
Average	15.365	15.32	15.3425
Variance	0.4645	0.717473684	0.576352564
<i>SM2</i>			
Count	20	20	40
Sum	286.8	287.7	574.5
Average	14.34	14.385	14.3625
Variance	0.677263158	0.491868421	0.570096154
<i>Total</i>			
Count	40	40	
Sum	594.1	594.1	
Average	14.8525	14.8525	
Variance	0.825634615	0.813326923	

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	19.208	1	19.208	32.6791	2E-07	3.966761
Variety	0	1	0	0	1	3.966761
Rep x Var	0.0405	1	0.0405	0.068904	0.79365	3.966761
Error	44.671	76	0.587776316			
Total	63.9195	79				

Exhibit C - 'Tassajara'

Quantitative data - Santa Maria

200500284

SM1 : Grower OSR, Pasquini Ranch, Guadalupe, Santa Maria, CA      sowing : 03/30/2005      evaluation : 06/10/2005  
 SM2 : Grower OSR, Ranch 15, Santa Maria, CA      sowing : 03/17/2005      evaluation : 05/31/2005

Head Height (cm)			
SM1		SM2	
	Tassajara	Pondorosa	Tassajara
1	15.6	14.3	13.3
2	16.2	12.1	13.9
3	15.1	12.4	11.4
4	16.1	13.2	12.9
5	14	15.2	12.9
6	15	14.9	14.8
7	15.7	15.1	14.1
8	14.4	14	13.9
9	14.3	14.3	13.6
10	15	13	14.1
11	15.7	13	13.6
12	15.7	14.7	13.4
13	15.8	14	13.9
14	15.4	13.1	14.1
15	14.5	13.5	13.5
16	14.5	12.2	14.4
17	15.1	13.8	12.4
18	15.5	13.3	13.7
19	14.9	13.3	13.5
20	15.9	13.7	11.9

Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SM1</i>			
Count	20	20	40
Sum	304.4	273.1	577.5
Average	15.22	13.655	14.4375
Variance	0.408	0.8405	1.23625
<i>SM2</i>			
Count	20	20	40
Sum	273	255.8	528.8
Average	13.65	12.79	13.22
Variance	0.301578947	1.482	1.058564103
<i>Total</i>			
Count	40	40	80
Sum	577.4	528.9	1106.3
Average	14.435	13.2225	14.4375
Variance	0.977717949	1.323326923	1.23625

**ANOVA**

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	29.646125	1	29.646125	39.10996	2.2E-08	3.966761
Variety	29.403125	1	29.403125	38.78939	2.4E-08	3.966761
Rep x Var	2.485125	1	2.485125	3.278444	0.07415	3.966761
Error	57.6095	76	0.758019737			
Total	119.143875	79				

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200500284

**Exhibit C - 'Tassajara'**

Quantitative data - Santa Maria

SM1 : Grower OSR, Pasquini Ranch, Guadalupe, Santa Maria, CA      sowing : 03/30/2005      evaluation : 06/10/2005  
 SM2 : Grower OSR, Ranch 15, Santa Maria, CA      sowing : 03/17/2005      evaluation : 05/31/2005

Core Diameter (mm)			
SM1		SM2	
	Tassajara	Pondorosa	Tassajara
1	23.6	33.1	34.5
2	23.5	28.3	38
3	24.6	30.7	33.5
4	25.1	33.5	19.5
5	32.1	31.7	34.5
6	23.9	31.9	36
7	23.9	32	31.5
8	24.8	31	39.5
9	26	29.8	36.5
10	22.9	30.9	34.5
11	23.1	29.8	31.5
12	22.8	33.8	23.5
13	25.4	32.7	30.7
14	24.1	32	32.1
15	28.9	30.8	32.5
16	31	29.1	41.5
17	24.9	32.3	27
18	24.9	32	31.5
19	25.6	28.3	31.5
20	24.7	33.1	34.5

## Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SM1</i>			
Count	20	20	40
Sum	505.8	626.8	1132.6
Average	25.29	31.34	28.315
Variance	6.425157895	2.667789474	13.81515385
<i>SM2</i>			
Count	20	20	40
Sum	654.3	597.5	1251.8
Average	32.715	29.875	31.295
Variance	25.90660526	42.39144737	35.34151282
<i>Total</i>			
Count	40	40	40
Sum	1160.1	1224.3	
Average	29.0025	30.6075	
Variance	29.88742949	22.50225	

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	177.608	1	177.608	9.179775	0.00334	3.966761
Variety	51.5205	1	51.5205	2.662868	0.10685	3.966761
Rep x Var	395.1605	1	395.1605	20.42411	2.2E-05	3.966761
Error	1470.429	76	19.34775			
Total	2094.718	79				

## Exhibit C - 'Tassajara'

Quantitative data - Santa Maria

200500284

SM1 : Grower OSR, Pasquini Ranch, Guadalupe, Santa Maria, CA      sowing : 03/30/2005      evaluation : 06/10/2005  
 SM2 : Grower OSR, Ranch 15, Santa Maria, CA      sowing : 03/17/2005      evaluation : 05/31/2005.

Core Length (mm)			
	SM1		SM2
	Tassajara	Pondorosa	Tassajara
1	34.9	44	33.5
2	34	32.4	29.5
3	30.9	42.9	32.5
4	30.6	47.8	12.5
5	35.2	42.2	34.5
6	31	49	24.5
7	32.3	46.1	24.5
8	31	43.7	40
9	32.1	34.1	34.5
10	28.2	48.4	37
11	30	45.2	19.5
12	32.2	49.7	19.8
13	32	47	27.5
14	34.5	40.6	29.5
15	31.1	41	32.5
16	35.6	43.9	36.5
17	29.9	42.7	20.5
18	32.9	40.2	29.5
19	32.1	47.1	25.5
20	30.2	44.1	35.5

## Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SM1</i>			
Count	20	20	40
Sum	640.7	872.1	1512.8
Average	32.035	43.605	37.82
Variance	3.940289474	20.33944737	46.15292308
<i>SM2</i>			
Count	20	20	40
Sum	579.3	548.6	1127.9
Average	28.965	27.43	28.1975
Variance	50.72976316	61.88747368	55.46896795
<i>Total</i>			
Count	40	40	
Sum	1220	1420.7	
Average	30.5	35.5175	
Variance	29.05076923	107.1440449	

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	1851.850125	1	1851.850125	54.10931	1.9E-10	3.966761
Variety	503.506125	1	503.506125	14.71197	0.00026	3.966761
Rep x Var	858.705125	1	858.705125	25.09055	3.5E-06	3.966761
Error	2601.0425	76	34.22424342			
Total	5815.103875	79				

200500284

Exhibit C - 'Tassajara'

Quantitative data - San Juan Bautista

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 1) sowing : 03/17/2005 evaluation : 06/07/2005  
 SJB2 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 2) sowing : 03/17/2005 evaluation : 06/07/2005

Spread of frame leaves (cm)			
SJB1		SJB2	
	Tassajara	Pondorosa	Tassajara
1	62.4	59.8	61.0
2	64.3	65.9	62.4
3	59.8	59.4	59.0
4	52.9	57.8	62.1
5	59.7	55.0	60.9
6	61.2	60.0	61.0
7	57.7	60.5	62.0
8	61.8	60.0	58.5
9	65.0	54.5	64.8
10	68.0	51.7	60.8
11	64.9	59.2	56.0
12	63.2	56.0	60.0
13	65.4	58.5	61.9
14	62.5	55.5	53.7
15	64.7	54.8	62.0
16	64.5	53.2	60.2
17	64.1	56.7	60.5
18	62.0	54.2	60.1
19	60.5	54.9	63.9
20	65.7	57.2	63.4

## Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SJB1</i>			
Count	20	20	40
Sum	1250.3	1144.8	2395.1
Average	62.515	57.24	59.8775
Variance	11.20028947	10.67831579	17.79358333
<i>SJB2</i>			
Count	20	20	40
Sum	1214.2	1170.5	2384.7
Average	60.71	58.525	59.6175
Variance	6.536736842	17.03671053	12.70866026
<i>Total</i>			
Count	40	40	
Sum	2464.5	2315.3	
Average	61.6125	57.8825	
Variance	9.47650641	13.92558333	

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	1.352	1	1.352	0.118983	0.73109	3.966761
Variety	278.258	1	278.258	24.48805	4.4E-06	3.966761
Rep x Var	47.7405	1	47.7405	4.201394	0.04384	3.966761
Error	863.589	76	11.36301316			
Total	1190.9395	79				

200500284

Exhibit C - Tassajara

Quantitative data - San Juan Bautista

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 1) sowing : 03/17/2005 evaluation : 06/07/2005  
 SJB2 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 2) sowing : 03/17/2005 evaluation : 06/07/2005

Head diameter (cm)				
	SJB1		SJB2	
	Tassajara	Pondorosa	Tassajara	Pondorosa
1	17.2	16.7	15.8	17.2
2	15.8	19.4	16.5	16.8
3	15.4	16.6	16.6	15.9
4	16.6	16.5	18.4	16.3
5	15.9	15.8	16.9	16.5
6	15.6	17.1	17.0	15.4
7	16.8	16.2	16.6	16.3
8	16.9	18.3	16.8	18.5
9	16.7	18.8	18.7	17.0
10	18.1	17.9	18.0	16.8
11	16.7	17.3	18.0	19.9
12	16.6	16.0	16.3	16.0
13	17.6	16.5	16.4	17.3
14	17.3	16.1	16.8	18.9
15	16.8	18.1	16.7	16.4
16	17.9	16.5	16.0	16.5
17	17.3	17.2	17.8	16.0
18	17.3	17.9	18.5	18.5
19	17.6	15.4	15.7	18.6
20	16.6	17.3	17.1	17.5

## Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SJB1</i>			
Count	20	20	40
Sum	336.7	341.6	678.3
Average	16.835	17.08	16.9575
Variance	0.548710526	1.109052632	0.823019231
<i>SJB2</i>			
Count	20	20	40
Sum	340.6	342.3	682.9
Average	17.03	17.115	17.0725
Variance	0.813789474	1.415026316	1.087685897
<i>Total</i>			
Count	40	40	
Sum	677.3	683.9	
Average	16.9325	17.0975	
Variance	0.673532051	1.22999359	

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	0.2645	1	0.2645	0.272219	0.60336	3.966761
Variety	0.5445	1	0.5445	0.56039	0.45641	3.966761
Rep x Var	0.128	1	0.128	0.131735	0.71765	3.966761
Error	73.845	76	0.971644737			
Total	74.782	79				

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200500284

## Exhibit C - 'Tassajara'

Quantitative data - San Juan Bautista

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 1) sowing : 03/17/2005 evaluation : 06/07/2005  
 SJB2 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 2) sowing : 03/17/2005 evaluation : 06/07/2005

Head Height (cm)				
	SJB1		SJB2	
	Tassajara	Pondorosa	Tassajara	Pondorosa
1	16.4	14.6	16.3	17.5
2	14.9	14.9	17.5	15.6
3	16.1	15.2	16.3	13.7
4	16.7	15.5	16.4	14.2
5	16.4	14.1	17.0	16.0
6	15.4	15.6	16.2	15.7
7	18.0	14.2	17.3	16.9
8	16.7	15.0	16.7	16.2
9	16.8	15.2	18.1	15.7
10	15.9	13.9	17.3	16.2
11	17.1	15.2	13.9	15.3
12	14.8	13.2	16.1	14.0
13	16.1	16.3	15.8	14.5
14	16.3	15.7	17.0	16.8
15	17.9	15.4	16.9	13.9
16	16.7	17.0	16.6	15.8
17	16.8	15.2	16.9	14.5
18	18.3	15.7	18.1	15.4
19	15.5	13.9	15.5	16.0
20	16.6	15.2	17.2	16.9

## Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SJB1</i>			
Count	20	20	40
Sum	329.4	301	630.4
Average	16.47	15.05	15.76
Variance	0.868526316	0.782631579	1.321435897
<i>SJB2</i>			
Count	20	20	40
Sum	333.1	310.8	643.9
Average	16.655	15.54	16.0975
Variance	0.887868421	1.212	1.341788462
<i>Total</i>			
Count	40	40	
Sum	662.5	611.8	
Average	16.5625	15.295	
Variance	0.864455128	1.033307692	

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	2.278125	1	2.278125	2.429335	0.12324	3.966761
Variety	32.131125	1	32.131125	34.26382	1.2E-07	3.966761
Rep x Var	0.465125	1	0.465125	0.495998	0.48342	3.966761
Error	71.2695	76	0.937756579			
Total	106.143875	79				

200500284

Exhibit C - 'Tassajara'

Quantitative data - San Juan Bautista

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 1) sowing : 03/17/2005 evaluation : 06/07/2005  
 SJB2 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 2) sowing : 03/17/2005 evaluation : 06/07/2005

Core Diameter (mm)			
	SJB1		SJB2
	Tassajara	Pondorosa	Tassajara
1	33.8	31.8	34.1
2	24.8	33.0	26.3
3	35.1	32.8	27.6
4	29.3	36.7	26.0
5	29.0	33.8	27.3
6	29.0	33.5	26.5
7	31.0	31.7	28.2
8	29.6	34.4	30.4
9	30.5	31.0	28.5
10	31.1	29.0	33.5
11	31.5	37.9	28.8
12	28.0	30.9	31.6
13	29.9	31.7	32.8
14	30.0	29.6	32.5
15	27.9	31.5	28.5
16	32.3	33.5	28.9
17	31.1	35.0	31.6
18	34.4	33.3	32.3
19	34.5	34.5	27.9
20	30.5	35.5	29.8

Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SJB1</i>			
Count	20	20	40
Sum	613.3	661.1	1274.4
Average	30.665	33.055	31.86
Variance	6.357131579	5.074184211	7.03374359
<i>SJB2</i>			
Count	20	20	40
Sum	593.1	636.9	1230
Average	29.655	31.845	30.75
Variance	6.377342105	4.395236842	6.477948718
<i>Total</i>			
Count	40	40	80
Sum	1206.4	1298	2504.4
Average	30.16	32.45	30.51
Variance	6.465538462	4.988717949	6.226673601

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	24.642	1	24.642	4.439221	0.03842	3.966761
Variety	104.882	1	104.882	18.89434	4.2E-05	3.966761
Rep x Var	0.2	1	0.2	0.03603	0.84996	3.966761
Error	421.874	76	5.550973684			
Total	551.598	79				

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200500284

Exhibit C - 'Tassajara'

Quantitative data - San Juan Bautista

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 1) sowing : 03/17/2005 evaluation : 06/07/2005  
 SJB2 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 2) sowing : 03/17/2005 evaluation : 06/07/2005

Core Length (mm)				
	SJB1		SJB2	
	Tassajara	Pondorosa	Tassajara	Pondorosa
1	69.0	59.3	67.0	51.7
2	65.2	68.2	59.5	64.4
3	64.9	70.9	74.8	42.2
4	66.2	60.6	63.2	50.6
5	65.0	55.0	68.8	51.3
6	62.8	68.4	87.0	59.8
7	65.0	59.3	70.0	73.5
8	60.8	65.8	76.0	65.7
9	68.4	68.5	75.5	60.5
10	80.0	51.5	70.7	64.9
11	62.0	63.5	60.6	61.2
12	68.5	59.7	61.5	43.3
13	65.9	62.1	62.2	70.0
14	58.0	54.0	71.9	50.5
15	72.5	67.8	66.5	49.2
16	61.4	66.9	68.0	61.9
17	59.0	71.0	72.7	43.5
18	60.2	64.7	73.2	58.1
19	66.1	53.0	63.8	52.8
20	68.2	67.9	66.5	70.4

## Anova: Two-Factor With Replication

SUMMARY	Tassajara	Pondorosa	Total
<i>SJB1</i>			
Count	20	20	40
Sum	1309.1	1258.1	2567.2
Average	65.455	62.905	64.18
Variance	25.42892105	37.26365789	32.20984615
<i>SJB2</i>			
Count	20	20	40
Sum	1379.4	1145.5	2524.9
Average	68.97	57.275	63.1225
Variance	43.89589474	88.75565789	99.69512179
<i>Total</i>			
Count	40	40	
Sum	2688.5	2403.6	
Average	67.2125	60.09	
Variance	36.94163462	69.5214359	

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rep	22.366125	1	22.366125	0.457984	0.50062	3.966761
Variety	1014.600125	1	1014.600125	20.77565	1.9E-05	3.966761
Rep x Var	418.155125	1	418.155125	8.56243	0.00452	3.966761
Error	3711.5385	76	48.83603289			
Total	5166.659875	79				

## ADDENDUM TO EXHIBIT D - TASSAJARA

200500204

## Exhibit D - 'Tassajara'

## Quantitative data - Spread of Frame Leaves

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, California (rep 1)

sowing : 03/17/2005

evaluation : 06/07/2005

Pit #	Spread of Frame Leaves (cm)	
	Tassajara	Jupiter
1	62.4	60.5
2	64.3	64.1
3	59.8	67.5
4	52.9	67.0
5	59.7	62.5
6	61.2	70.8
7	57.7	68.6
8	61.8	64.0
9	65.0	69.8
10	68.0	62.5
11	64.9	63.9
12	63.2	69.0
13	65.4	65.1
14	62.5	71.0
15	64.7	63.2
16	64.5	67.4
17	64.1	58.2
18	62.0	68.8
19	60.5	68.9
20	65.7	66.2
Mean	62.5	66.0

## Anova: Single Factor

## SUMMARY

Groups	Count	Sum	Average	Variance
Tassajara	20	1250.3	62.515	11.2002895
Jupiter	20	1319	65.95	12.4184211

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	117.99	1	117.99225	9.99142183	0.00308433	4.09816892
Within Groups	448.76	38	11.80935526			
Total	566.75	39				

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## ADDENDUM TO EXHIBIT D - TASSAJARA

200500204

## Exhibit D - 'Tassajara'

## Quantitative data - Head Diameter

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, California (rep 1)

sowing : 03/17/2005

evaluation : 06/07/2005

Pit #	Head Diameter (cm)	
	Tassajara	Jupiter
1	17.2	16.5
2	15.8	21.7
3	15.4	18.9
4	16.6	15.7
5	15.9	17.2
6	15.6	17.9
7	16.8	17.7
8	16.9	18.1
9	16.7	19.9
10	18.1	17.7
11	16.7	17.0
12	16.6	17.4
13	17.6	21.0
14	17.3	18.9
15	16.8	18.9
16	17.9	17.3
17	17.3	16.9
18	17.3	17.6
19	17.6	14.0
20	16.6	16.3
Mean	16.8	17.8

## Anova: Single Factor

## SUMMARY

Groups	Count	Sum	Average	Variance
Tassajara	20	336.7	16.835	0.54871053
Jupiter	20	356.6	17.83	3.08642105

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	9.9003	1	9.90025	5.44698302	0.02499092	4.09816892
Within Groups	69.067	38	1.817565789			
Total	78.968	39				

Note: data already submitted in Exhibit D

## ADDENDUM TO EXHIBIT D - TASSAJARA

200500204

## Exhibit D - 'Tassajara'

## Quantitative data - Head Height

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, California (rep 1)

sowing : 03/17/2005

evaluation : 06/07/2005

Plt #	Head Height (cm)	
	Tassajara	Jupiter
1	16.4	19.8
2	14.9	18.8
3	16.1	19.0
4	16.7	20.1
5	16.4	18.0
6	15.4	17.8
7	18.0	16.9
8	16.7	17.1
9	16.8	19.7
10	15.9	16.1
11	17.1	19.4
12	14.8	18.4
13	16.1	17.5
14	16.3	19.7
15	17.9	16.5
16	16.7	20.0
17	16.8	17.1
18	18.3	19.3
19	15.5	16.3
20	16.6	17.6
Mean	16.5	18.3

## Anova: Single Factor

## SUMMARY

Groups	Count	Sum	Average	Variance
Tassajara	20	329.4	16.47	0.86852632
Jupiter	20	365.1	18.255	1.76892105

## ANOVA

Source of Variation	SS	df	MS	F	P-value	Fcrit
Between Groups	31.862	1	31.86225	24.16143	1.7285E-05	4.09816892
Within Groups	50.111	38	1.318723684			
Total	81.974	39				

Note: data already submitted in Exhibit D

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## ADDENDUM TO EXHIBIT D - TASSAJARA

200500204

## Exhibit D - 'Tassajara'

## Quantitative data - Spread of Frame Leaves

SJB3 : 525 Lucy Brown Lane, San Juan Bautista, California

sowing : 06/18/2005

evaluation : 08/23/2005

Plt #	Spread of Frame Leaves (cm)	
	Tassajara	Jupiter
1	60.3	54.9
2	52.2	56.8
3	60.5	61.5
4	55.8	57.7
5	52.5	56.3
6	55.1	56.9
7	53.2	61.2
8	58.6	60.8
9	53.3	62.7
10	55.8	58.5
11	59.4	59.2
12	55.5	61.8
13	52.5	63.2
14	51.5	59.9
15	51.4	58.4
16	55.5	61.2
17	55.8	60
18	52.4	61.8
19	53.2	58.2
20	49.2	61.5
Mean	54.7	59.6

## Anova: Single Factor

## SUMMARY

Groups	Count	Sum	Average	Variance
Tassajara	20	1093.7	54.685	9.81186842
Jupiter	20	1192.5	59.625	5.40828947

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	244.04	1	244.036	32.0674728	1.6517E-06	4.09816892
Within Groups	289.18	38	7.610078947			
Total	533.22	39				

## ADDENDUM TO EXHIBIT D - TASSAJARA

200500234

Exhibit D - 'Tassajara'

Quantitative data - Head Diameter

SJB3 : 525 Lucy Brown Lane, San Juan Bautista, California

sowing : 06/18/2005

evaluation : 08/23/2005

Plt #	Head Diameter (cm)	
	Tassajara	Jupiter
1	14.6	15.6
2	15.5	17.2
3	15.1	15.6
4	13.2	17.4
5	14.8	14.8
6	15.2	16.9
7	16.1	14.9
8	13.3	15.9
9	15.6	15.4
10	15.1	14.7
11	16.5	15.4
12	15.2	15.6
13	15.7	16.2
14	14.3	13.5
15	15.9	14.2
16	15.7	14.4
17	14.9	15.5
18	15.5	15.3
19	13.3	15
20	15.3	15.2
Mean	15.0	15.4

Anova: Single Factor

## SUMMARY

Groups	Count	Sum	Average	Variance
Tassajara	20	300.8	15.04	0.84147368
Jupiter	20	308.7	15.435	0.93923684

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.5603	1	1.56025	1.75239038	0.19348528	4.09816892
Within Groups	33.833	38	0.890355263			
Total	35.394	39				

## ADDENDUM TO EXHIBIT D - TASSAJARA

200200204

## Exhibit D - 'Tassajara'

## Quantitative data - Head Height

SJB3 : 525 Lucy Brown Lane, San Juan Bautista, California

sowing : 06/18/2005

evaluation : 08/23/2005

Pit #	Head Height (cm)	
	Tassajara	Jupiter
1	18.1	17.5
2	16.4	16.6
3	16.7	17.7
4	15.1	16.3
5	16.3	15.4
6	16.3	16.7
7	17.1	16.3
8	16.1	16.2
9	15.9	16.5
10	16.6	16.7
11	17.9	14.8
12	16.4	17.1
13	15.9	15.7
14	16.2	18.1
15	18.1	16.4
16	15.9	16.5
17	16.2	15.7
18	14.2	16.2
19	15.4	17
20	14	16.8
Mean	16.2	16.5

## Anova: Single Factor

## SUMMARY

Groups	Count	Sum	Average	Variance
Tassajara	20	324.8	16.24	1.17726316
Jupiter	20	330.2	16.51	0.602

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.729	1	0.729	0.81944034	0.37104775	4.09816892
Within Groups	33.806	38	0.889631579			
Total	34.535	39				

**Exhibit D - 'Tassajara'**

Quantitative data - SJB

**200500284**

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 1)

sowing : 03/17/2005

evaluation : 06/07/2005

Head Diameter (cm)		
	Tassajara	Jupiter
1	17.2	16.5
2	15.8	21.7
3	15.4	18.9
4	16.6	15.7
5	15.9	17.2
6	15.6	17.9
7	16.8	17.7
8	16.9	18.1
9	16.7	19.9
10	18.1	17.7
11	16.7	17.0
12	16.6	17.4
13	17.6	21.0
14	17.3	18.9
15	16.8	18.9
16	17.9	17.3
17	17.3	16.9
18	17.3	17.6
19	17.6	14.0
20	16.6	16.3
Mean	16.8	17.8

**ANOVA****SUMMARY**

Groups	Count	Sum	Average	Variance
Column 1	20	336.7	16.835	0.548711
Column 2	20	356.6	17.83	3.086421

**ANOVA**

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	9.90025	1	9.90025	5.446983	0.02499	4.098169
Within Groups	69.0675	38	1.817565789			
Total	78.96775	39				

**Exhibit D - Tassajara**

Quantitative data - SJB

**200500284**

SJB1 : 525 Lucy Brown Lane, San Juan Bautista, CA (rep 1)

sowing : 03/17/2005

evaluation : 06/07/2005

Head Height (cm)		
	Tassajara	Jupiter
1	16.4	19.8
2	14.9	18.8
3	16.1	19.0
4	16.7	20.1
5	16.4	18.0
6	15.4	17.8
7	18.0	16.9
8	16.7	17.1
9	16.8	19.7
10	15.9	16.1
11	17.1	19.4
12	14.8	18.4
13	16.1	17.5
14	16.3	19.7
15	17.9	16.5
16	16.7	20.0
17	16.8	17.1
18	18.3	19.3
19	15.5	16.3
20	16.6	17.6
Mean	16.5	18.3

## ANOVA

## SUMMARY

Groups	Count	Sum	Average	Variance
Column 1	20	329.4	16.47	0.868526
Column 2	20	365.1	18.255	1.768921

## ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	31.86225	1	31.86225	24.16143	1.7E-05	4.098169
Within Groups	50.11115	38	1.318723684			
Total	81.97375	39				

## ADDENDUM TO EXHIBIT C - TASSAJARA

200200234

## Exhibit C - Tassajara

## Quantitative Data - Head Weight

SJB3 : 525 Lucy Brown Lane, San Juan Bautista, CA

sowing: 06/18/2005

evaluation: 08/23/2005

Plt #	headweight (grams)	
	Tassajara	Ponderosa
1	1154.2	666.4
2	1352.1	639.5
3	1248	766.9
4	1108.1	686.7
5	1150	815.1
6	1328.4	601.8
7	1202.5	850.8
8	1060.5	648.5
9	1184.1	682.5
10	1285	881
11	1520.5	906.2
12	1358.1	1121.5
13	1236.3	738.4
14	1098.4	617.8
15	1386.4	798.3
16	1292.1	1182.5
17	1357.7	1187.8
18	1283.9	935.9
19	1189.5	737
20	729.2	796.4
Mean	1226.3	813.1

## Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Tassajara	20	24525	1226.25	26546.6395
Ponderosa	20	16261	813.05	32122.5205

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1707342.4	1	1707342.4	58.2023809	3.5224E-09	4.09816892
Within Groups	1114714.04	38	29334.58			
Total	2822056.44	39				

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## ADDENDUM TO EXHIBIT C - TASSAJARA

Exhibit C - Tassajara  
Quantitative Data

SJB3 : 525 Lucy Brown Lane, San Juan Bautista, California

sowing : 06/18/2005 evaluation : 08/23/2005

Trial#	Pit#	Spread of frame leaves (cm)		Head Weight (gram)		Head Diam (cm)		Head Height (cm)		Core Diam (mm)		Core Length (mm)	
		Tassajara	Ponderosa	Tassajara	Ponderosa	Tassajara	Ponderosa	Tassajara	Ponderosa	Tassajara	Ponderosa	Tassajara	Ponderosa
SJB3	1	60.3	52.4	1154.2	666.4	14.6	15.4	18.1	13.2	41.2	34.8	79.3	100.8
SJB3	2	52.2	46.2	1352.1	639.5	15.5	15.2	16.4	14.9	35.2	30	43.2	100.2
SJB3	3	60.5	52.7	1248	766.9	15.1	14.8	16.7	14.7	31.8	32.5	54.9	84.1
SJB3	4	55.8	50	1108.1	686.7	13.2	13.3	15.1	12.7	37.1	30.3	40.5	67.8
SJB3	5	52.5	55.6	1150	815.1	14.8	13.9	16.3	14.5	37.2	32.1	44.5	83.6
SJB3	6	55.1	45.9	1328.4	601.8	15.2	13.5	16.3	14.5	36.2	28.1	54.1	68.2
SJB3	7	53.2	49.2	1202.5	850.8	16.1	13.2	17.1	14	35	34.5	28.4	72.7
SJB3	8	58.6	44.4	1060.5	648.5	13.3	13.4	16.1	14.5	34.8	30.9	54.7	88.3
SJB3	9	53.3	45.5	1184.1	682.5	15.6	13.3	15.9	14.2	37.1	33.1	35.3	100.7
SJB3	10	55.8	53.8	1285	881	15.1	15.5	16.6	15.4	39.8	34.5	61.5	120
SJB3	11	59.4	51.2	1520.5	906.2	16.5	14.9	17.9	15.4	38.3	34.8	67.1	100.9
SJB3	12	55.5	53.9	1358.1	1121.5	15.2	16.5	16.4	15.5	39.5	35.9	98.2	120
SJB3	13	52.5	51.4	1236.3	738.4	15.7	13	15.9	14.5	37.2	37.1	92.5	100
SJB3	14	51.5	49.5	1098.4	617.8	14.3	12.9	16.2	12.9	29.9	32.1	40	85.4
SJB3	15	51.4	53.2	1386.4	798.3	15.9	15	18.1	15.1	38.7	31.5	79.8	130
SJB3	16	55.5	54.9	1292.1	1182.5	15.7	14.9	15.9	16.4	36.4	39.2	47.2	110.5
SJB3	17	55.8	63.6	1357.7	1187.8	14.9	15.5	16.2	15.2	35.5	38.1	88.5	140
SJB3	18	52.4	51	1283.9	935.9	15.5	13.4	14.2	14.2	34.1	32.5	77.6	100.5
SJB3	19	53.2	47.5	1189.5	737	13.3	13.8	15.4	13.5	36.1	32	64.9	92.7
SJB3	20	49.2	52.9	729.2	796.4	15.3	13.5	14	14.4	30.6	31.8	52.8	95.6
Mean		54.7	51.2	1226.3	813.1	15.0	14.2	16.2	14.5	36.1	33.3	60.3	98.1
Variance		9.8	19.2	26546.6	32122.5	0.8	1.1	1.2	0.9	8.6	7.9	404.9	372.5

200500234

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U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S)  <i>ENZA ZADEN BEHEER B.V.</i>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  <i>14.0980</i>	3. VARIETY NAME  <i>TASSAJARA</i>
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  <i>POSTBUS 7, 1600 AA ENKHUIZEN HALING 1<sup>e</sup>, 1602 DB ENKHUIZEN THE NETHERLANDS</i>	5. TELEPHONE (Include area code)  <i>011-31-228-315844</i>	6. FAX (Include area code)  <i>011-31-228-315854</i>
	7. PVPO NUMBER  <i>200500284</i>	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.  YES  NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.  YES  NO  
  
*THE NETHERLANDS*

10. Is the applicant the original owner?  YES  NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?  
 YES  NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?  
 YES  NO If no, give name of country

11. Additional explanation on ownership (*Trace ownership from original breeder to current owner. Use the reverse for extra space if needed*):

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

- If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
- If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
- If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

*According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.*

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*To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.*